

INSIDE DOPE

by GEORGE F. TAUBENECK

Damyankees
Po' 'Bo'
Don't Bother The Boss
Queer Plays
Don't Heckle the Coach
Write Your Own Headline
Original Research

Damyankees

One of the greatest upsets in football history was Centre college's defeat of then-mighty Harvard. Sparked by the fabulous "Bo" McMillan, the tiny, unknown southern eleven blasted Harvard right out of its stadium and almost out of the Ivy League. Harvard hasn't been the same since.

Rumor spread that Quarterback McMillan led his team in prayer before the game. What actually happened, according to "Bo" himself, is that in the dressing room he huddled the boys and told 'em:

"Ever' man on that Hahvahd team is a Damyankee an' a Republican. Let's retrieve the honuh of the South!"

Po' 'Bo'

"Bo" McMillan—the fabled and fabulous whilom coach of Centre college, Indiana university, and the Detroit Lions—dreamed up an intricate new forward pass play one night. One of his many football teams (he never identifies it when he recounts the incident) worked and worked and worked on this play the following day and weeks—but couldn't make it work.

McMillan lost his patience and his temper the afternoon when his "po' little boys" had gummed up his tricky new formation for the 179th time.

"You numbskulls," he ejaculated, "I'm gonna keep you here all night. You'll rehearse that play until you're black in the face!"

It so happened that the fastest man in that backfield was a highly intelligent colored boy.

"I assume," this lad spoke up, "that I can go home to dinner now."

McMillan grew up in the Big Wind Belt, and as a boy he was picked up and dropped down by a tornado. That was quite an experience, as he tells it.

Dusting himself off and feeling gingerly his muscles and bones, "Bo" started to trudge back home. First man he encountered on this trudge was the parson of his church.

"You all right?"

"Yup. I'm all here."

"The Lord must have been with you, then."

"Waal," drawled McMillan, "effen He was with me. He sure was travelin' fast."

Don't Bother The Boss

Wallace Wade, illustrious football coach of many great Alabama and Duke football teams, scared the living daylights out of most of his players. He was respected and feared, rather than beloved and worshipped.

One afternoon he was driving a select group of his players to an important contest in a neighboring city. Suddenly he pulled off the highway to wait for the bus which carried the remainder of the teammates. (Wade wanted to be sure that the bus was on time.)

One of the boys in the back seat noticed the right wheels of Wade's sedan were inching sideways across a slippery soft shoulder which edged a rather deep ditch. He beckoned to the other lads in the rear seat, and pointed silently toward the looming big ditch. They saw at once their precarious position.

"Tell the coach," whispered one of the players, nudging his neighbor.

"No, you tell him," was the whispered reply.

Then the big bus carrying the rest of the players zoomed past them.

Hastily Coach Wade started up his car—which immediately overturned into the ditch.

Nobody was injured in the accident, but George McAfee (who later

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AIR CONDITIONING & REFRIGERATION

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Ted Reina Elected
RACCA Head at
Annual Meeting

LONG BEACH, Calif.—Ted Reina of M & R Engineering Co., Brooklyn, is the new president of the Refrigeration and Air Conditioning Contractors Association. He was elected during the recent annual meeting of RACCA here.

The selection of Reina for the presidency of the Contractors Association, says a statement from the organization's headquarters, is a recognition not only of his qualifications for the position, but is also a tribute to the Refrigeration and Air Conditioning Guild of New York, of which he is a member. The Guild has been a very active local group and has cooperated closely with RACCA.

Other officers elected are: first vice president, Lee J. Quinn, L. J. Quinn Co., Inc., Cincinnati; second vice president, Ralph W. Lampie, Ralph W. Lampie Refrigeration Service, Richmond, Va.; treasurer, Art M. Palen, Palen Refrigeration Co., St. Paul; recording secretary, Cecil E. Kirby, Miami Super Cold, Inc., Miami, Fla.; sergeant-at-arms, Ted Rostock, Arcticaire Refrigeration Co., Kansas City, Mo.

New directors elected include:
(Concluded on Back Page, Column 1)

Freezer Rentals with
'Option To Buy' Banned

DETROIT—Freezer rental plans whereby a freezer is installed with a small monthly rental charge and the renter is given the option of purchasing the freezer are in violation of Regulation W.

This was pointed out by an official at the Federal Reserve Bank here in answer to a dealer's inquiry. The official cited the regulation's definition of credit which contains the following clauses:

"Any rental-purchase contract, or contract for the bailment or leasing of property under which the bailee or lessee either has the option of becoming the owner thereof or obligates himself to pay as compensation a sum substantially equivalent to or in excess of the value thereof; . . . and any transaction or series of transactions having a similar purpose or effect."

This, in effect, would rule out this type of promotion.

The dealer can, however, offer a 10-day free trial of the freezer upon the express agreement at time of delivery that the dealer will either collect the 25% down payment at the end of the 10 days or retrieve the freezer.

In the case of freezers, it was admitted, this is not much help to the dealer.

G-E Expects Output Cut
Of 25% After Jan. 1

NEW YORK CITY—General Electric Co. is expecting to have to cut back production of refrigerators, home freezers, and other major appliances about 25% after Jan. 1, according to statements made by Hardage L. Andrews, vice president in charge of the appliance and merchandise department.

Government restrictions on the use of materials, particularly aluminum and copper, will make it necessary to cut production, it was indicated.

Andrews also said that contrary to expectations, tighter credit restrictions have not reduced sales of G-E appliances as yet, but he says that
(Concluded on Back Page, Column 2)

Copper Use, Porcelain Enamel
Output To Suffer In New Slashes

WASHINGTON, D. C., Nov. 29—Civilian use of copper during the first two months of 1951 will be cut 15%, and in March it will be slashed 20%, the National Production Authority announced today.

The NPA's order applies to brass mill and copper wire mill products and the cut is made from the average monthly consumption during the first six months of 1950.

A United Press estimate indicated that this would reserve 65,000 additional tons of copper for military use during the first three months of next year.

Another NPA order specified how much output copper producers must set aside for filling "DO" priority orders.

Rheem's Entry Into
Gas Field Hailed
As Aid to Promotion

DETROIT—The News reported in a recent issue that Rheem Mfg. Co. is preparing to produce and market a new gas-absorption type of household refrigerator developed by Clayton & Lambert Mfg. Co.

The same issue also carried the statement by W. Paul Jones, president of Servel, Inc., that his firm welcomes "any good substantial company that will come into the industry and help to develop the vast market for gas refrigerators."

What's behind this industrial "love-making" by the sole U. S. manufacturer in this field with a competitor-to-be?

Probably the main factor is the feeling on the part of those with an interest in gas refrigeration that competition is actually needed in this field to help solve production, distribution, and merchandising problems. Servel has had to work out
(Concluded on Page 4, Column 5)

No Quick Action Seen
On Price Controls

WASHINGTON, D. C.—Barring an all-out War situation, there doesn't seem to be a very great possibility of any quick action on direct price controls. For one thing, President Truman hasn't found anyone yet who will take on the job of Price Administrator.

A couple of tentative plans for price control are said to be under consideration by Dr. Alan Valentine, Economic Stabilization Agency head. These plans, it is rumored, would include selective price controls in specific industries and recommendations for voluntary industry action in other fields.

The Wage Stabilization Board, which met here this week, adjourned after two days of "exploratory" discussions and doesn't plan to meet for another 10 days. Board members hinted that they couldn't do anything until "price ceilings were set."

There seemed to have been some agreement reached on the point that pay rates must be "stabilized" where price ceilings are put in force. Some labor proponents argued that the National Production Act didn't necessarily call for this, but the Economic Stabilization Agency general counsel is said to have registered an opinion that "the wage stabilization wouldn't necessarily have to come simultaneously, but it would have to follow in a reasonable time."

WASHINGTON, D. C., Nov. 29—Makers of porcelain enamel during December will be allowed only 45% of the average monthly quantity of cobalt oxide they received in the first half of this year, the National Production Authority announced today.

Cobalt oxide (cobalt mixed with oxygen) is an essential ingredient in enamel and thus vital to the manufacture of many consumer goods. While cobalt itself had been the subject of a restraining order previously, today's action was the first on cobalt oxide.

A representative of the Porcelain Enamel Institute earlier in the week had told the NPA that if supplies of cobalt oxide were cut 50%, "production of most consumer goods using porcelain enamel would be chopped a proportionate amount." Porcelain enamel, of course, is widely used in the production of electrical appliances, commercial refrigerators, and many housewares items.

In the production of porcelain enamel cobalt oxide is mixed with ground glass and other materials to make "frit," which is the ground coating applied directly to steel, under the outside coating of white enamel. It is the only material yet
(Concluded on Back Page, Column 4)

Hotpoint Optimistic
On Substitution of
Critical Materials

CHICAGO—A preview of Hotpoint's 1951 marketing strategy characterized by "aggressive sales programs" was presented here at the company's distributor convention.

More than 400 persons representing all Hotpoint distributors and district sales organizations attended the two-day parley.

Hotpoint is reasonably optimistic on the matter of substitutions for critical materials, having had a long-range program on such substitutions underway for some time.

The subject of materials substitution was covered by W. F. Ogden, manager of products. He said that this is not a new problem, since many materials have been in critical supply during the last three years.

A long range program of expedient material substitution anticipates diversion of some metals such as aluminum, zinc, cobalt, copper, and others to defense needs, he noted.
(Concluded on Page 4, Column 1)

How Does Construction Ban
On Amusement Facilities
Affect Air Conditioning?

WASHINGTON, D. C.—Manufacturers and dealers in theater equipment have asked the National Production Authority to tell them just how the ban on construction of amusement facilities affects such items as, say, air conditioning.

They want to know whether installation of an air conditioning system or a movie projector would be considered "construction" by the agency, and thus be banned.

NPA officials answered by saying that in such cases a written statement should be presented to the government agency covering "what is necessary to keep present theaters operating and how it can be done under the provisions of Order M-4."

Larger Freezer
Sections In 3
New G-E Models

New Compressor, Interior
Styling Featured In Line
Of Refrigerators, Freezers

BRIDGEPORT, Conn.—Three new refrigerators with "extra-large" freezing compartments across the top of the cabinets have been added to General Electric Co.'s 1951 line.

According to C. K. Rieger, manager of the G-E household refrigerator division, the line also includes four standard refrigerators with side-mounted freezing compartments, two combination refrigerator-food freezers, and two chest-type freezers.

All the models have been restyled and incorporate an "improved, exceptionally quiet" refrigerating mechanism, Rieger said.

Recommended national retail prices of the new models are as follows:

"Across-the-top" refrigerators—LC-8-H, \$299.95; LF-8-H, \$329.95; LF-10-H, \$359.95. Standard refrigerators—NB-4-H, \$219.95; NC-6-H, \$209.95; NB-8-H, \$249.95; NCS-8-H, \$269.95. Combination refrigerator-food freezers—NHX-8-H, \$439.95; NHX-10-H, \$479.95. Food freezers—NA-8-H, \$349.95; NA-11-H, \$419.95.

All refrigerator models except the NCS-8 and the LC-8 are available with right or left-hand doors.

The new, horizontal freezing compartment is featured in a medium-price 8-cu. ft. refrigerator and in deluxe 8 and 10-ft. models. In the 8-ft. models, the compartment holds 43 lbs. of frozen foods. Capacity of the 10-ft. model is 49 lbs. of frozen food.

A full-width chiller tray immediately below the compartment is provided in all three refrigerators for fast cooling of soft drinks or for storage of meats. It will also hold an extra supply of ice cubes for entertaining.

"Because of the unique design of
(Concluded on Page 25, Column 1)

Gibson Plants Return
To Full-Scale Operation

GREENVILLE, Mich.—Full-scale manufacturing operations of Gibson Refrigerator Co. plants in Greenville and Belding were under way last week in spite of the recent heavy snow storm.

The plants had been operating with supervisory and maintenance crews for the last two weeks when the hunting season and material shortages were combined into one work stoppage period.

Gibson officials said materials on hand along with those scheduled for early arrival make it now appear that full-scale production can be maintained for some weeks ahead.

The future effect of unforeseen governmental regulations cannot be calculated, they pointed out.

Holl Succeeds Seeger as
Refrigerator Co. Pres.

ST. PAUL—Walter G. Seeger, president of Seeger Refrigerator Co. since 1936, was elected chairman of the board and



John S. Holl

John S. Holl, executive vice president, was elected to succeed him in the presidency at the company's annual directors' meeting here recently.

Seeger joined the company the year after it was founded by his father, John A. Seeger, in 1906, and has served as a director since 1908. He became president 10 years after the company switched production from ice-cooled to mechanical refrigerators in 1926.

Holl joined Seeger Refrigerator in 1928 after attending Carleton college, Northfield, Minn. He worked up through the organization to become successively head of the purchasing department, secretary, vice president, and then executive vice president in September, 1948.

Neb. Group Urges Wider Refrigeration Use By Bakeries To Combat Mass Poisonings

LINCOLN, Neb.—Need for greater use of refrigeration in handling perishable foods and for better enforcement of sanitary regulations throughout Nebraska were highlighted at an organizational meeting of the Nebraska Public Health association here. This was the first concerted effort since 1934 to establish such an organization and it resulted in the formation of the association with Dr. Roland Loder, Lincoln-Lancaster Health Department director, as president.

The Lincoln conference coincided with the poisoning of more than 300 persons in Omaha caused by a cherry-garnished Boston cream pie contaminated at an Omaha bakery. Dr. Edwin D. Lyman, director of the City-County Health department in Omaha, explained that the Omaha "pie poisoning" case was an "excellent example" of the need of refrigeration and cleanliness in handling highly perishable food products.

About two and a half hours after the first case of poisoning was reported, he stated, the Omaha bakery had been ordered to recall all of the Boston cream pies it had distributed to food establishments. First cases of the malady came from the Brandeis department store where employees who had eaten the pie in the store cafeteria were affected by violent vomiting, nausea, leg cramps, and diarrhea. About 200 persons who attended a Scottish Rite banquet later were struck by the ailment. This pie was the one common item on the

Brandeis and Scottish Rite menus and was furnished to the two places by the same bakery.

The suspicion was confirmed for Dr. Lyman by technicians at the University of Nebraska, College of Medicine.

Dr. Lyman pointed out that cream pies are responsible for many such outbreaks. Milk and eggs used in the pastry make an excellent medium for the growth of staphylococcus bacteria, he declared, which form a toxin in the digestive system. The only preventives, he added, are extreme heat to kill the bacteria or extreme cold to retard their production.

OMAHA LAWS MODERN, BUT—

Roman Hruska, Douglas county commissioner from Omaha, told the public health conference delegates here that the Omaha incident did not appear to point the need for any new health laws in Omaha, but did indicate the need for greater sanitation precautions including proper refrigeration by the bakery managements. The Omaha health laws are relatively modern, it was explained, having been passed about three years ago.

Dr. Loder stated that Lincoln has a good restaurant ordinance and generally good cooperation between health officials, cafemen, and bakers. Most voluntarily have refrigerated their cream pies and custards and also voluntarily refrain from selling them in hot weather when the danger of poisoning is highest.

However, Lester A. Sanger, Lincoln

public health engineer, noted that several years ago the Lincoln health department backed an ordinance that would have required refrigeration of cream pies and similar perishables, but it was defeated by the city council when food handlers contended it would require too great an investment in refrigeration.

GROUP ACTION SEEN VITAL

Sanger pointed out that refrigeration of foods served to the public should be increased both through education and by law. He said that many bakeries now use refrigerated trucks for transporting pastries such as cream pies. Lincoln bakeries come under the same food-handling laws that restaurants do, he concluded, and explained that the new state health association could do much to prevent a repetition of what has just happened in Omaha.

Consensus of the public health officers was that the new association should encourage the proper preservation of foods by refrigeration throughout the state.

Price Rise of Some Marlo Coils Amounts to 16-28%

ST. LOUIS—Marlo Coil Co. has increased prices on all of its coils fabricated with copper tubes and copper fins.

The price increases range from 16 to 28%.

Bldg. Plans Include Cooling

NEW ORLEANS—Construction bids are out for a two-story doctor's building, at 2026 St. Charles, to cost about \$200,000 and to be equipped with year-round air conditioning.

Heating-Ventilating Show, ASHVE Meeting Set To Open Jan. 22

NEW YORK CITY—A wide variety of new products for the heating, ventilating, and air conditioning field will go on display at the Tenth International Heating & Ventilating Exposition to be held Jan. 22-26 in the Commercial Museum in Philadelphia.

The exposition is held under the auspices of the American Society of Heating & Ventilating Engineers, which will hold its 57th annual meeting at the same time the exposition is on.

Typical of the advance announcements for new products to go on display are those of The Trane Co., which will exhibit its new "Centravac," termed the only hermetic centrifugal compressor and water chiller serving the 45-to-150-ton refrigeration range; and the announcement of The Baltimore Aircoil Co., Inc., which will introduce a new line of evaporative condensers and cooling towers claimed to be "unlike any that has ever been shown before."

Complete air conditioning systems for winter and for both winter and summer service, will be well represented at the exposition.

Typical of one of the larger and more complete exhibits will be that showing a centrifugal compressor, a complete line of "Freon" reciprocating compressors, a central station air conditioner, an evaporative condenser, 5-hp. hermetic compressor, and room air conditioners for central systems.

In addition to air conditioning systems for multi-room application, the exposition will feature many units and systems for industrial needs.

One of the branches of the industry that has taken on a high degree of technical importance is air purification, including primarily filtration, but advancing into the difficult field of chemical and biological treatments. In this category is electrical precipitation. One exhibit at the exposition will include an industrial low voltage precipitator, available for an inviting type of application in product or by-product recovery, but also useful for nuisance elimination,

which is a remedy sought by industries that are literally in bad odor with the public.

The exhibit will feature an exclusive built-in washing system, and will also emphasize packaged units of relatively small cost for installation on small jobs.

In the extensive display of tools especially made to speed up and simplify field work is an air-cooled all-purpose portable power saw, which fits a heavy duty drill driven by compressed air or by flexible shaft. This tool is especially adapted for roughing-in plumbing, installing pipe and conduit and other time-consuming jobs customarily worked by hand.

As many of the displays are technical, the general public is not invited. Only qualified visitors are permitted to register in order to gain admission.

The International Exposition Co., 480 Lexington Ave., New York, conducts the Heating, Ventilating & Air Conditioning Exposition. The manager is Charles F. Roth, and the associate manager, E. K. Stevens.

Distributorship Succeeds Thor Branch In Northwest

CHICAGO—Thor Corp. has announced the closing of its Portland branch office and the placing of this territory on a distributorship basis.

Robert L. Rice, former branch manager, has formed his own firm, Robert L. Rice Co., which has been appointed Thor distributor for the territory.

At the same time, the company announced the promotion of Harley A. Payne to Pacific Northwest district sales manager, a new position. He was formerly acting manager of the Thor branch office at Seattle, Wash.

Payne, who will maintain headquarters at Seattle, will work with Thor distributors at Seattle and Spokane, Wash., Portland, Ore., and Butte, Mont. Before joining Thor in 1948, he was vice president of Joseph C. Platt, Inc., manufacturer's representative for the Pacific Northwest.

Feibels Supply To Handle Norge

SHREVEPORT, La.—Feibels Supply Co., here, has announced its appointment as dealer for Norge appliances.

"FREON" ADVERTISING HERE

helps stimulate sales for you!

Definite "Freon" campaigns in each of these magazines prompt readers to think of your business. For they tell your prospects—the men who make buying decisions—about many profitable uses for air conditioning and refrigeration.

Industrial executives read about new air conditioning and refrigeration applications that can help them cut costs and speed production in their plants.

Men in the food field are told about the safety and efficiency of equipment designed to utilize "Freon" safe refrigerants . . . and of the flexibility of many large and small installations.

A special campaign directed to architects illustrates how leading authorities in the field have planned efficient refrigeration systems for practically every type of building and business.

Over one million readers of the Du Pont Magazine learn of new developments in air conditioning and refrigeration through interesting articles which appear periodically.

Radio listeners coast to coast hear special Du Pont "Cavalcade of America" commercials telling the part air conditioning and refrigeration play in America today.

All this means that more people are better informed about the air conditioning and refrigeration industry, and with this advertising we hope to stimulate not only "Freon" sales, but your sales as well.

E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

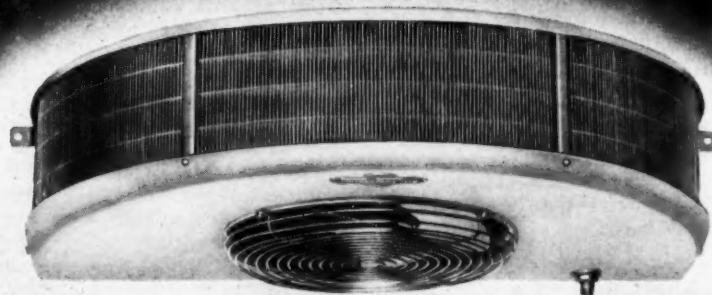


"FREON" SAFE REFRIGERANTS

"FREON" is Du Pont's registered trade-mark for its fluorinated hydrocarbon refrigerants.



BETZ HALF ROUND



Sales Prove It

WORLD'S FOREMOST COOLING UNIT FOR WALK-INS

MODEL NO.	BTU AT 1" TD	CFM	SURFACE SQ. FT.	DIMENSION		
				H	W	D
190-HR	190	415	58.96	8"	27"	17 7/8"
260-HR	260	550	78.61	8"	27"	17 7/8"
347-HR	347	740	100.28	8"	33"	20 7/8"
433-HR	433	860	125.28	9 1/2"	33"	20 7/8"
540-HR	540	1052	153.22	9 1/2"	39"	23 7/8"
688-HR	688	1400	183.00	11"	39"	23 7/8"
867-HR	867	1800	231.75	12 1/2"	42"	25 3/8"

See Them at Your Wholesalers

BETZ CORPORATION

HAMMOND • INDIANA

Use of Home Freezers Urged by Campaign Of Calif. Turkey Group

LOS ANGELES — Home freezer dealers in this area are expected to benefit from a vigorous promotional campaign launched recently by the California Turkey Federation in an effort to convince consumers that turkey is an economical, year-round food.

The Federation intends to capitalize on the fact that the home freezer is no longer a luxury item. It plans to emphasize the advantages of the freezer as a means of increasing the sale of turkeys.

The Federation is composed of turkey growers and processors, including both the fresh and frozen turkey distribution industries.

Plans for the campaign were explained at a luncheon meeting held in the Los Angeles Department of Water and Power "Matchless Electric Home." Roasted turkey prepared and quick frozen by Mrs. Mercedes Gaffney, senior home economist for the department, was served.

The meeting was opened with a novel KLAC-TV television program featuring "Chef" Mike Roy as master of ceremonies. Roy was televised against a kitchen background featuring a turkey slowly roasting on an electric rotisserie. From this setting, he told his TV audience about the meeting then in progress at the Matchless Home.

A series of Chef Roy programs is being telecast monthly by KLAC-TV. The next one is scheduled for Dec. 12 from noon to 1 p.m.

On these programs, Roy will have Mrs. Gaffney as his "guest star." She will explain and demonstrate to the TV audience the many benefits enjoyed by home freezer owners. Her presentations will cover the varied turkey menus possible with the freezer.

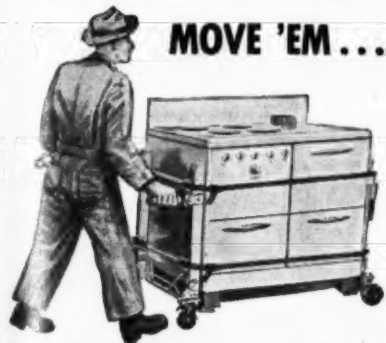
The programs will afford dealers an opportunity to concentrate attention both on home freezers and television. Freezer prospects can be invited to view the program and, while the show is selling them on the merits of freezers and turkey, they will also be receiving a television program demonstration, it was pointed out.

The turkey promotional campaign is being conducted in this area by the Pacific Dairy and Poultry Association, local representative of the California Turkey Federation.

M & R Appliance Opens 2nd Unit

BROOKLYN—The M & R Appliance Co. has announced the opening of a new showroom at 15 Snyder Ave. at Flatbush Ave. here. The Westinghouse dealership, owned by partners E. J. Merenda and Ted A. Reina, will continue to operate its other store at 4018 Church Ave. here.

As part of the grand opening celebration, "Uncle Ted" Reina passed out free tickets to his "Youth Program Show" at the Albemarle theater.



MOVE 'EM...

Easily, Safely, Quickly
with
**ROLL-OR-KARI
DUAL TRUCKS**

Handling stoves, refrigerators, freezers and other heavy, awkward loads is a cinch with Roll-Or-Kari Dual Trucks. Adjustable to any size load, Roll-Or-Kari Trucks with the patented Step-On-Lift and Web Lock and Tightener are easy to attach and easy to roll. Foot lever on each truck raises truck to rolling position. Folding handles. Capacity 1,000 lbs. Shipping weight 40 lbs.

Be thrifty in 'Fifty—Roll-Or-Kari Dual Trucks are your insurance against time losses and breakage losses. Write today for full information. Dept. A.

ROLL-OR-KARI CO.
MANUFACTURERS
BUMBOTA - MINN.



Their Theme -- Anytime Is Turkey Time

PLANNING THE PROMOTION called for a meeting by key members of the Pacific Dairy and Poultry Association, which represents the California Turkey Federation in Los Angeles, in Matchless Electric Home of Los Angeles Department of Water and Power.

WHO'S WHO: Henry Greene (executive secretary of PD & PA), Harry Priestler (Universal Marketing Co.), W. W. Sauber (Swift & Co.), Louis Cesarette (So. Calif. Poultry Co.), Harrison Rice (C. A. Swanson & Sons), Mrs. Mercedes Gaffney (home economist, Dept. of Water & Power), E. H. Telaneus (Armour & Co.), Robert Jardine (Cudahy), Leo Pearlstein (Jenkins-Large Ad Agency), R. R. Cole (Ocana Foods), Drue Willardson (Willardson & Co.), C. K. Santo (Wilson & Co.).

Copyrighted 'Lay-Away Club Plan' Collects Down Payment In Instalments

ERIE, Pa.—The Winter Co. has devised a new, copyrighted "Lay-Away Club Plan" which makes it easier for customers to purchase appliances and television in face of tighter credit requirements under Regulation W.

The plan is designed to take the sting out of larger down payments now required by the government and under the Winter plan a \$5 deposit is all that is needed to initiate a purchase.

Here is the way The Winter Co. explains the plan to customers:

"Your down payment on any appliance, radio, or television set must be 25% by law. But, we believe you may wish to make your down payment easy by using the Winter Exclusive Lay Away Club Plan. It's simple—all you do is divide the down payment into smaller amounts to be paid over weeks or even months before taking delivery.

"Select the appliance or television set, make a deposit of as little as \$5 and receive the Winter Lay Away Club Plan Certificate. Then we will hold your choice in our warehouse at no cost to you whatever until your partial payments complete the required down payment of 25%. At your convenience, then, delivery will be made and your regular payments can begin."

The Winter Co. says making purchases under this plan has several advantages, including:

"1. Today's prices absolutely guaranteed (prices may go up!)"

"2. Terms may be shortened still further and down payments increased."

"3. Today's high quality guaranteed."

"4. Guaranteed delivery because under the Winter Plan we will hold your selection at our warehouse at no cost to you until you want it."

Good Advice For Good Dealers



**DON'T SIGN ANY FRANCHISE
UNTIL YOU READ THIS BOOK**

Before you sign any major electric appliance franchise, you owe it to yourself to review "Opportunity Unlimited". In it you will find an interesting portrayal of all the advantages available to you in the Hotpoint Dealer's Franchise.

Nowhere else will you find an appliance franchise so replete with year-round profit opportunities. Nowhere else will you find a retail sales philosophy so beneficial in profitably amplifying your major appliance markets. Nowhere else will you find an appliance line so complete—a line to fill the needs and demands of all your customers at all times.

Talk to your Hotpoint distributor now, and have him show you "Opportunity Unlimited". You'll discover you made a wise decision.



Switch to Hotpoint!

FOR FULL LINE LEADERSHIP

RANGES • REFRIGERATORS • DISHWASHERS • DISPOSALS • WATER HEATERS • CABINETS
FOOD FREEZERS • AUTOMATIC WASHERS • CLOTHES DRYERS • ROTARY IRONERS

Hotpoint Inc.

(A General Electric Affiliant)
3600 W. Taylor St., Chicago 44, Illinois

Hotpoint Ready To Meet Materials Substitution Problem--

(Concluded from Page 1, Column 4)
Substitutions can be made if needed, he said, without impairing appliance performance and appearance.

E. R. Taylor, general sales manager, revealed that 1951 was the greatest year in the company's standpoint of total sales.

Billings for the month of September were larger than those for the entire year of 1940. Dishwasher shipments in October exceeded the entire output for 1946.

Taylor cautioned that while the industry generally is in a very healthy position, it is impossible to predict what inroads national defense requirements will make on the appliance business in 1951.

Nevertheless, he said, Hotpoint is going ahead with plans to strengthen its selling forces and step up its efficiency. He urged the distributors to work closely with electric utilities and department and furniture stores in refining the dealer organization.

Reviewing sales records made this year, E. E. McEwan, manager of market forecasting, said that 1950 was another abnormal year in the appliance business. Continuing, he made these points:

The "Korean market" was characterized by sharp increases in replacement sales. Refrigerator sales during this period were 72% replacement compared with the 50% that could be expected at this season. Similar increases occurred with other appliances.

At the beginning of 1950, Hotpoint anticipated strong demand for the last half of the year. This strategy paid off because the company was in

a good competitive position when the Korean buying took place. As a result, Hotpoint was able to increase its industry position on many appliances. For example, the company's position on ranges increased 15% over the first half of the year.

After the Korean buying tapered off, it was possible to build inventories at manufacturer and distributor levels. The company will enter 1951 with a healthy inventory.

McEwan said 1950 was an excellent year for the industry, with range sales estimated to reach 1,800,000 an 80% increase over 1949. Before Korea, total shipments for the year were estimated at over 1,400,000, indicating that 400,000 ranges were taken from the future market.

Using charts, he explained that even without restrictions, "we could hardly expect 1951 to equal 1950." Assuming a 25% cutback in range output, the industry would make 1,350,000 ranges—a very healthy business and far above average for the postwar period.

Automatic washers should reach 1,500,000, a 76% increase over 1949, he estimated. Even a 30% reduction would make 1951 the second biggest year in the business, he said.

In view of expected replacement sales and new home construction, it is believed that consumers could absorb 4,500,000 refrigerators in 1951. In other words, it was stated, the industry could tolerate a 27% cutback without decreasing the sales effort required to move this volume.

McEwan declined to estimate market conditions in 1951, saying that the nation's prime consideration—the

defense program—will be the controlling factor. If defense requirements were to amount to an average cutback of around 30%, appliance output in 1951 could be extremely high, with proportionate sales effort required, he declared.

J. F. McDaniel, sales manager, predicted that 1951 would see most manufacturers bidding for the top dealers. He said Hotpoint has won recognition for the value of its full line franchise and that distributors should capitalize on this to work for stronger retail representation.

In the category of special markets, progress with key accounts has been "spectacular," the meeting was told. From September, 1949, major department, furniture, and specialty stores selling complete Hotpoint kitchens and laundries have grown from 52 to 173, it was reported. Hotpoint will continue this major account drive in 1951.

Referring to the builder market, McDaniel said the company aims to extend the gains made in the past year, commensurate with the availability of merchandise. He credited the "Hotpoint House of the Fifties," built in New York as an all-electric demonstration house, with dramatizing the company's stature in the builder business.

The Hotpoint utility program which has succeeded in enlisting the active support of electric companies in merchandising appliances will be continued in 1951, McDaniel said.

The official announced a new distributor's award for 1951 to be called "the president's award for achievement in distribution." Awards will

be made on the basis of activities such as balanced sales performance, trade area percentages compared with national average, balanced dealer organization, and special market activities.

Distributor management of the national winner will receive the president's trophy and honorary membership in Hotpoint's "Key Man" group, a supervisory organization representing 300 employees from foremen through top management levels.

Deepfreeze Switches To District Setup; Appoints Fellmann Field Sales Mgr.

CHICAGO—Re-division of its sales territories into 13 districts and promotion of John Fellmann from central region manager to manager of field sales have been announced by Deepfreeze Appliance Div. of Motor Products Corp.

Deepfreeze's sales territories formerly were split among four regions. Ben G. Sanderson, general sales manager of the division, explained that the district setup was necessitated by expansion of the sales organization since addition of refrigerators, ranges, and water heaters to the firm's line.

Fellmann has been manager of the old central region for the past five years. His headquarters will be in Deepfreeze's space in the Merchandise Mart here.

A district sales manager will be in charge of each of the 13 new districts. Managers for all districts have already been appointed, with the exception of the Minneapolis district. They are:

C. T. Redding, New York; D. A. Barbour, Boston; J. T. Hagan, Philadelphia; John P. Strange, Birmingham, Ala.; J. R. Carey, Atlanta; J. S. Davis, Dallas; William D. Randolph, Memphis; J. C. Brigrance, Cleveland; L. R. Wells, Kansas City; Eugene W. Butler, Chicago; R. F. Harnish, San Francisco; and John G. Watts, Portland, Ore.

Sanderson said the territory realignment is expected to enable wider distribution of Deepfreeze products. A drive to achieve this objective is now in progress.

Sanderson also reported that opening of Deepfreeze's new refrigerator plant in Lake Bluff had been delayed by the recent week-long strike now settled. Originally scheduled to be opened Dec. 1, the plant is now expected to be in operation around Dec. 10 to 15, he said.

New Rheem Move

(Concluded from Page 1, Column 3)
answers to many problems all by itself in the 25 years since it acquired the U. S. rights to the Swedish Munters-Platen patents on absorption refrigeration.

It's not that Servel has any apologies to make. "As a trustee, so to speak, we have done our job," Jones asserts. But, he adds, "today we need support from some source. We need more advertising and sales effort to build the market."

In an estimated 18 months, Rheem will be ready to help develop the market—if present plans work out and if steel and other materials are available at that time. In the meantime, the company intends to field test 1,000 refrigerators, engage in design study, expand its advertising program, and—in about a year—make definite plans for plant expansion and tooling.

Servel is not the only one who is pleased at competition in the gas refrigerator field. The gas utility industry is equally "delighted," as one utility executive put it, having long hoped that someone would make such a move.

For one thing, there is the load problem. In the winter, the load shoots up to a high peak; in the summer, it drops way down. To make matters worse, these variations become more pronounced as new regions get natural gas and as consumption of gas increases.

Again, the utilities think that competition will tend to relieve them of the burden of spearheading promotional activities on the gas refrigerator. This may mean greater emphasis on dealer selling of gas refrigerators.

In fact, the gas utilities had a direct hand in Rheem's entrance into the field. They selected five firms which they thought would be interested in manufacturing Clayton & Lambert's refrigerator, with Rheem finally coming out on top.

The action was taken because Clayton & Lambert had decided against producing the refrigerator itself. A self-styled "closely held smaller company," C&L felt that the cost of making the refrigerators would be too high for it. Besides, the company was entirely inexperienced in refrigerator distribution methods.

Aided by gas utility interests, C&L began developmental work on the refrigerator in 1943, when a basic Servel patent on continuous-absorption refrigeration expired. A prototype model was completed in 1945 and field tests started in 1949.

Dept. Store Sales Up 7% over Same 1949 Week

WASHINGTON, D. C.—Department store sales for the week ending Nov. 18 were 7% higher than in the corresponding week of 1949, the Federal Reserve Board announced recently. All Federal Reserve districts reported gains. They ranged from 2% in Richmond to 11% in Cleveland.

Sales for the year to Nov. 18 were 5% ahead of the like period last

year. Here, too, gains were recorded in all districts. They ranged from 1% in New York to 11% in Dallas.

Gains for the week in the various Federal Reserve districts were as follows: Richmond 2%, Boston 3%, Atlanta 4%, New York 6%, Minneapolis 7%, Chicago, St. Louis, and Kansas City 8%, Philadelphia and Dallas 9%, San Francisco 10%, and Cleveland 11%.



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Reg. W Interpretations

**'Examples' Show How To Figure Service Contract Costs In Sale Price,
How To Handle Other Problems Involving Covered Items**

WASHINGTON, D. C.—The Federal Reserve Board recently published summary of interpretations on provisions of the previous Regulation W that are still good under the present installment credit regulation.

In re-issuing the interpretations, the board warned that the summaries must be treated merely as examples demonstrating certain principles, and should not be taken as hidebound rules.

"There is no assurance that the facts of any new situation will be identical with those of the interpretations as condensed in the summaries," it said.

The interpretations cover transfer of equity, free merchandise and rebates, service relating to a listed article, delay in delivery, instalments in decreasing amounts, waiver or skipping of instalment payments, balloon notes, resale of repossessed listed articles, listed articles installed in a house, sale or delivery on trial, repairs and replacement parts, definitions of various listed articles, and calculating the down payment on Group B listed articles, which includes most major appliances and room air conditioners.

Under transfer of equity, the board explained that when a purchaser of a listed appliance on the instalment plan transfers the appliance to someone else directly, he can do so without regard to Reg. W as long as he remains liable on the original instalment contract and it is not changed save by adding the name of a new person.

However, if he is relieved of such liability, or the terms of the contract are altered, the registrant (holder of the contract) must abide by the regulation.

ARE DISCOUNTS PROHIBITED?

Free gifts or discounts on listed appliances are not prohibited by the regulation, the board noted. However, when a "free" gift is offered, the down payment must be collected on the "bona fide cash price" of the listed appliance. Thus, the dealer cannot raise the price of the appliance to cover the cost of the gift and compute the down payment on the basis of the inflated price.

When offering a discount or rebate, the dealer's records should show that an article selling at a particular price was reduced to a price net of discount upon which the required down payment was obtained.

A dealer who normally sells a service along with the listed article, even though that service is covered by a separate contract, must include the cost of the service as part of the cash price upon which the down payment and terms are figured.

One provision says the time balance shall be payable in instalments which shall be substantially equal in amount or so arranged that no instalment is substantially greater than any preceding instalment. This, the board noted, gives the dealer a choice in methods of payment.

It illustrated the second alternative by an example in which the first instalment payment was \$65 and each remaining instalment was \$25.

CAN PAYMENTS BE SKIPPED?

The board reminded dealers that agreement to skip any of the instalment payments including the first, is a violation of the regulation. Skipping the first payment is looked upon as a refund of part of the down payment. Only exception was in the case of purchasers with seasonal incomes where the payments can be adapted

to the customary flow of their income as specifically provided in the regulation.

A "balloon" note on an instalment loan which calls for a number of equal monthly payments followed by one final payment of several times the size of the preceding payments meets the requirements of Regulation W in a case such as this:

Say a loan, which must be paid in 15 months to meet the requirements of Reg. W, is scheduled to be paid in 11 equal monthly instalments followed by a 12th larger instalment. In this case, says the board, there must be "an express agreement that when the 12th payment falls due, only one-fourth of it will be paid on that date and the rest will be refinanced into three monthly payments in such manner that the net result will be 15 substantially equal monthly payments."

The fact that a listed appliance has been repossessed does not exempt that appliance from the provisions of Reg. W when it is resold, the board ruled.

Loans to purchase a house in which listed appliances are already installed are exempt from Regulation W although mortgage loans to purchase such appliances are not.

Regulation W permits under certain technical conditions a 10-day trial of a listed appliance before the required down payment must be collected or the merchandise returned. However, the board emphasized that the trial must be a genuine one and not a conditional sales contract. Thus, if the customer purchases such an appliance with the option of returning it if it is not satisfactory, the down payment must be collected before delivery.

REPLACEMENT PARTS COVERED?

Repairs and replacement parts for listed appliances are not considered to be listed articles in themselves and thus are not subject to the regulation.

Among the listed articles, the classification "cooking stoves and

ranges" includes table model roasters and cookers. It does not include cooking and baking equipment designed for commercial uses in restaurants and hotels, or a deep fat fryer designed for such use.

The classification "ironers for household use" does not include hand irons.

The classification "refrigerators and food freezers, mechanical" includes a system consisting of one or more cabinets with a separate mechanical refrigeration unit serving these cabinets.

It does not include a locker in a locker plant; nor cabinets to hold or display ice cream or other products for sale; nor water coolers, nor milk coolers designed for household use; nor automatic vending machines which cool as well as dispense soft drinks.

A "commercial model" automatic washer incorporating certain "heavy-duty" features and equipped with a coin operating device is a listed article if it is of a type readily adaptable for household use and is not designed exclusively for commercial use.

Radio receiving sets do not include radio transmitting sets or combination radio transmitting and receiving sets.

Phonographs or combinations include an automatic record player designed to play more than the usual number of records without repeating or changing and incorporating other unusual technical features but readily

adaptable for household use and not designed exclusively for commercial use.

Television receiving sets include sets suitable for private or home use even though they may be commonly used commercially. This is true, in the absence of other facts, even though they may have exceptionally large screens or cabinets and may be equipped with a coin-operating device.

The regulation provides that dealers accepting trade-ins on a listed appliance must deduct the value of the trade-in from the cash price of the article to get the net price on which the down payment is calculated. A trade-in may not be accepted as part of the initial down payment.

This, however, does not prohibit the dealer from taking back an appliance that the customer finds unsatisfactory and giving him a credit of the full purchase price for it on the purchase of a new appliance. But, the dealer is prohibited from raising the price of the new article in order to offset depreciation in the original appliance.

Braid Opens at New Location

NASHVILLE, Tenn.—A new building housing the general offices, electrical supply, lighting, and radio-TV parts departments of the Braid Electric Co. was formally opened recently. The building is located at 11th St. and Demonbreun Viaduct.



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Quotas To Be Continued By Sunbeam Corp. In '51

CHICAGO—Sunbeam Corp. expects to continue allocating its electric housewares in the first quarter of 1951, a company spokesman said. Deliveries are being made just about in accordance with the allocation schedule, he stated.

He said the company is booked up through 1950 and is not accepting any orders at present for delivery before Christmas.

2 Ohio Graybar Houses Appointed by Coolerator

DULUTH, Minn.—Graybar Electric houses in Dayton and Cincinnati have been appointed exclusive Coolerator distributors, according to W. C. Conley, Jr., Coolerator general sales manager.

They will distribute Coolerator appliances in southwest Ohio and several counties in Kentucky and Indiana.

Directing the Coolerator operation in Cincinnati will be Harry G. McQueen, Cincinnati appliance sales manager. E. E. Ackerman is the appliance sales manager for Dayton.

In charge of the over-all Graybar operation in this area is L. B. Westfall, district sales manager in Cincinnati. Glen Moore is district appliance sales manager. A. J. Fischer is branch manager for Dayton.

Both Graybar houses will soon announce a complete Coolerator promotional program for all of their dealers.

What Kind of Market Will 1960 Bring?

Lawson Sees U. S. Families Better Educated, More Alike In Tastes And Behavior, More Numerous, and Wealthier In Next 10 Years

(Excerpts from a talk by C. T. Lawson, vice president, Nash-Kelvinator Corp. and retiring president, National Electrical Manufacturers Association.)

1950 has been a great year for Nema members. Volume, in almost every line of business, was up sharply during the first nine months over the comparable period of 1949. Employment and income have been up sharply. Final figures, even if there is some cutback in the last quarter, should still show an impressive increase for the year.

Let's look at some of the specific contributions of Nema to our success . . . services that will be perhaps more important than ever in the days ahead. To cover all of the services of Nema would be impossible, and I have, therefore, chosen only five to illustrate my point, for they are typical of each and all of the services rendered by Nema.

The companies which you and I represent operate more efficiently and effectively because of Nema's work in the field of statistics, on electrical codes, on adequate wiring, in thoroughly competent legal counsel, and . . . this fifth point is an intangible one but is a direct result of Nema's services . . . savings in executive man-hours.

The Nema statistical department, directed by an engineer with sound statistical training, is a very unusual institution. It is located in a separate office, with doors locked on the inside and with its own locked vault. None but members of the staff of that de-

partment can go into the statistical office and none but members of the statistical department have access to the individual company figures contributed by various member companies for the compilation of over 100 statistical series.

If, instead of a Nema, each of the Nema subdivisions was represented by a trade association, there would be in existence, theoretically, 70 such trade associations. With each endeavoring to carry on its own statistical activities, each of the 70 would have to generate the same kind of reputation for integrity which the Nema statistical department staff has so firmly established.

If such potential separate trade associations were to employ accounting firms to handle the confidential statistics, each accounting firm would equally have to establish confidence in the secrecy of the individual figures.

tional Electrical Code to keep it up-to-date is supported financially through section charges by approximately 60 of the 70 Nema subdivisions whose members are affected by it.

These 60 Nema sections are represented in the various code-making panels by representatives of Nema who are under the general supervision of the Nema Codes and Standards Committee. The Codes and Standards Committee instructs them as to the proper vote after due consideration of the views of all interested Nema sections and under carefully established policies and procedures.

This makes possible the presentation of a consistent Nema attitude, which reflects the interest of those sections having primary interest in any proposed code amendment, as well as the interests of those Nema subdivisions having a secondary or

Members of the refrigeration industry have taken great pride in Mr. Lawson's position as president of Nema during the current year. Although we like to think of our business as being a big one, it's relatively small in comparison to other sections of the National Electrical Manufacturers Association; and Mr. Lawson is the first refrigeration executive to be chosen for Nema's top post.

His President's Address at Nema's annual convention is published here in full because:

- (1) It makes some canny, useful, and heartening predictions for the next decade and
- (2) It describes some of the methods of a mature, highly integrated organization in the gathering of authentic statistics and other mutually profitable endeavors.

Those who know Charlie Lawson will testify that this speech is typical of the man in that (a) he's selling something he believes in, and (b) there isn't an ounce of baloney in the package.

Confidence in Nema's statistical department may be an intangible benefit . . . but the savings in dollars is most certainly a tangible benefit to each of us. The cost of each Nema statistical activity is approximately one tenth of what it would cost if it were carried on by private statistical and accounting firms outside of the Nema offices.

Nema's legal counsel has contributed to our success. They provide the various Nema subdivisions and committees with advice based on a uniform interpretation of the law by the firm.

Any member company which belongs to more than one subdivision can readily ascertain the legal thinking which underlies advice to all Nema subdivisions by Nema counsel. It can be fully informed about the basic legal principles and conduct of Nema affairs at a very much greater economy of time and effort than if it belonged to a number of separate trade associations, each, theoretically, with different legal counsel.

Advice of Nema counsel is budgeted for 1950 at a nominal cost. If, instead of Nema, there were 70 small trade associations, the cost of legal advice at minimum retainers might run eight or ten times as much as is budgeted.

The constant revision of the Na-

collateral interest, and all in accord with sound public policy and the law.

Evidently, the Nema Adequate Wiring Program is a subject of some controversy. No one, however, seems to think that the adequate wiring program should not be carried on, and there is practically no criticism of the amount of money which Nema is spending on the program. Practically all of the criticism relates to the amount of the cost allocated to individual Nema sections.

But everyone agrees that the lack of adequate wiring has more to do with delaying growth of electric service to the public and, therefore, the sale of electrical products, than any other element in the total situation. It involves not only manufacturers of appliances which use electricity, but also those who make the equipment for generation, transmission, and distribution as well as those who manufacture wire, cable, and all other types of wiring materials.

Obviously, manufacturers of wiring devices, armored cable, non-metallic sheathed cable, knife and enclosed switches, etc., could not, any one of them alone or jointly, afford to finance an adequate wiring program on the scale which seems necessary. Only financial support from all of the benefited sections of Nema

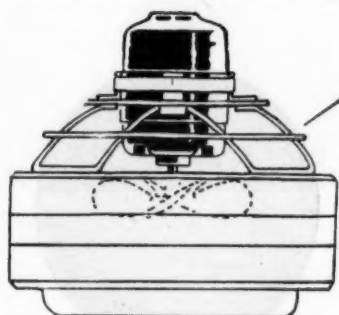
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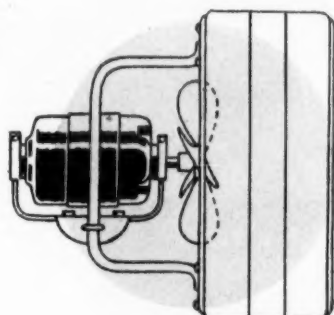
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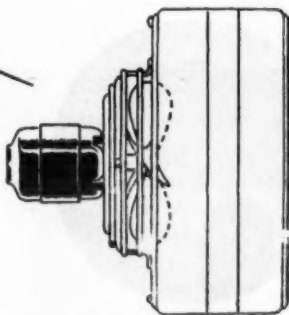
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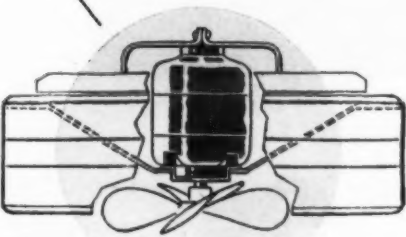
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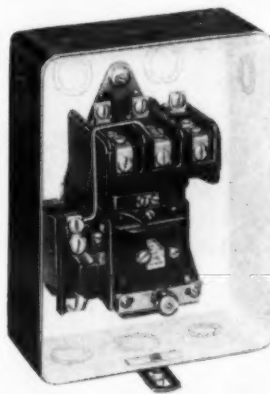
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QUALITY

MOTOR CONTROL

Lawson Lauds NEMA Aid to Members on Statistics, Codes, Wiring, Legal Counsel

(Concluded from preceding page)

makes such a program possible. If the funds for the National Adequate Wiring Program had to be collected in any other way than through the Nema dues allocation and apportionment plan, it would probably cost up to \$25,000 to collect the \$110,000 which has been budgeted for the Nema project in 1950.

I mentioned at the start that my fifth point is an intangible one . . . savings in executive man-hours. Management has become increasingly aware, during the past few years, that the time of the executives who manage their companies is perhaps the most valuable commodity management purchases. Any saving that management can make in demands upon their executives' time is a direct contribution to more effective performance of individual executive jobs.

The Nema organization structure is the basis of a tremendous savings in executive man-hours to member companies. Twice a year Nema holds conventions for nearly all of the Nema sections, as well as for many Nema committees and official Nema meetings.

Many Man-Hours Saved

The organization behind these meetings makes for a very substantial economy in executive man-hours. Many representatives of member companies are able to attend up to 10 meetings in two to four days. Just contrast this with the condition that would exist in your own individual company if your individual men were to attend separate meetings of separate associations for each of the subdivisions of which your company is a member.

Perhaps the additional expense and cost of travel would not seem any greater, but the expenditure of executive man-hours would be fantastically expensive. On this point alone, Nema is most certainly a bargain . . . and we are deeply indebted to the far-sighted men who brought together a number of electrical organizations and consolidated them into Nema in 1926.

Looking to the future, Nema is going to be increasingly important in helping us to realize the great potential of the electrical industry in the days ahead. None of us today, of

course, are thinking of business as usual as we look immediately ahead. All of us remember vividly the impact the war economy of World War II made upon our industry. What the total impact to our present preparedness program will be on our economy, only time can tell; but it is significant that throughout history wars have had the broad effect of speeding up national processes of evolution. To quote but one example: You and I fly from coast to coast faster and safer today than we would have had it not been for the terrific development of air power during World War II.

Looking Ahead to 1960

In appraising this decade that lies ahead of us, let's look ahead to the American market of 1960.

Our future market is going to be better educated. When the electrical industry began to achieve stature in 1930, only 13% of our total adult population were high school graduates. By 1950, this had increased to 38% and by 1960, it is estimated that 51% of our total adult population will have a high school education. Aside from formal schooling, our rising level of educational attainment is further boosted by newspaper, magazine, radio, television, books, films, which together contribute an immeasurable mass of information and culture to more and more people.

The net result of this is that our market of 1960 will be more standardized in its beliefs, behavior, and tastes. This means that our market will become more homogeneous and it thus becomes increasingly important that we be right in the statistics upon which we base the production of our products . . . that we be right in the codes that are established affecting the electrical industry.

Evidence of Standardization

It is interesting to note that this standardization of belief, behavior, and taste has already shown itself prominently in the decade from 1940 to 1950. For example: One hundred foreign language publications have failed since 1940 and there has been a 31% loss in total foreign language broadcast hours since 1941.

In our market of 1960, we cannot overlook the fact that our population

will be considerably increased.

But more important to us, perhaps, is that the number of families will be increasing faster than the number of individuals. While the total population increase from 1940 to 1960 will be only about 20%, it is estimated that the number of families will increase about 31%.

There are three basic reasons for this:

1. The growth of internal migration.
2. The movement of families from farm to urban and suburban areas, and—
3. The fact that people are living longer and, due to their better standards of living, a larger percentage of them will be living apart from their children.

Large families are breaking up into smaller families. To the electrical industry this means that the market for our products will be considerably larger than would be indicated by population increase figures alone.

Wider Distribution of Wealth

Another important point in evaluating our market in 1960 is that the distribution of our wealth is becoming wider and wider. This is occurring primarily because the extension of education and technology in this country has increased productivity to a point where, with each succeeding decade, there is a wider distribution of our wealth.

Summarizing, it would seem that we could look at our future market of United States families as being better-educated . . . more standardized in tastes and behavior . . . broken up into smaller families with the trend toward smaller dwelling units, and having a continuing in-

crease in purchasing power.

Many attribute much of the success of America to the fusing of competition and cooperation of the proper kind. At our industry level, we can readily see how an organization like Nema can help us to put this alloy of competition and cooperation to work for all of us.

In our business we would dismiss as obvious the observation that we couldn't get along without each other, and yet I wonder if we are always aware of the degree to which our individual success is interlocked with that of others.

Interdependence Stressed

Regardless of what we build individually, we are for the most part dependent upon others in our industry. The manufacturer . . . whether he be building giant generators, transformers, wire, major appliances, or electrical houseware table appliances . . . is a customer of the products of a vast host of other manufacturers within our industry. In addition to the power he buys and all of the electrical machinery and equipment needed for production, he must buy large quantities of electrical parts and supplies. Business is generated throughout the entire electrical industry.

The cost of all this material is lower and its quality is higher for all manufacturers and all wholesale users because their individual competitive efforts create a volume market. In other words, wire costs one less because many others use a lot of it, too; and conversely, volume consumption of it gives everyone value in their purchases. The direct and indirect ramifications in terms of materials, labor, and profit are almost limitless.

Seeger's Sales, Earnings Set Record for 2nd Year

ST. PAUL—Seeger Refrigerator Co. increased its sales nearly 18% and its earnings 33% in the fiscal year ended Aug. 31, 1950, the company's annual report to stockholders disclosed recently.

The increase marked the second consecutive year in which sales and earnings set new high records for the company.

Net sales were \$81,500,371 as compared with \$69,155,199 the year before. Net earnings were \$5,565,535 as against \$4,178,428 in the preceding year. State and federal income tax provisions totaled \$4,150,000 as compared with \$2,775,000 in the 1949 fiscal period. On the basis of 1,100,000 shares of common stock outstanding, earnings were \$5.06 a share as against \$3.79 a year before.

A modernization and improvement program covering both the St. Paul and Evansville plants was almost entirely completed during the year, Walter G. Seeger, president, said.

The company's current assets at Aug. 31 totaled \$27,903,739 and current liabilities were \$13,653,624, as against \$19,187,634 and \$7,561,164 at the end of the preceding fiscal year.

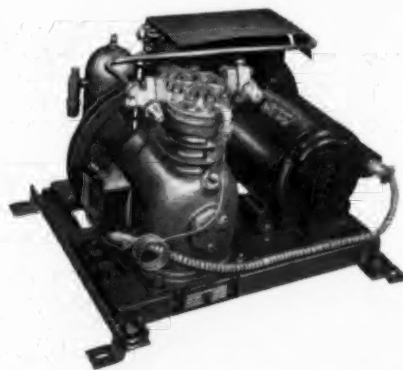
Air Conditioning Application Subject of Detroit RSES Talk

DETROIT—"Application of Air Conditioning" will be discussed by Ralph Gonzales of Airtemp Div., Chrysler Corp., before the Greater Detroit RSES chapter at 7:30 p.m. Friday, Dec. 8, at the Rackham building here.

MILLS CONDENSING UNITS LARGE and SMALL CAPACITIES



Model 1000-W: Mills big sturdy-duty 10 h.p. Water Cooled Condensing Unit. A giant for service.



Model 25-C: Mills small 1/4 h.p. Air Cooled Unit. Widely used for a variety of requirements. Dependable long-life construction.

All Provide Same Reliability and Long-Life Economy

Chosen again and again for their long-life dependability, Mills Compressors and Condensing Units, from the 10 h.p. down to the 1/4 h.p. capacity, give you a range to meet the big majority of all refrigerating and air conditioning requirements.

You'll find no skimping—no over-rating. Because of proven performance, experienced engineers and service men know they can count on Mills Units long-life performance. They cost less per year!

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JOHN LEES

DIVISION of THE SERRICK CORPORATION
Kilgore Avenue, Muncie, Indiana, U.S.A.

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)
starred with the Chicago Bears) still claims that it was practically the only time in his life when he felt completely helpless.

Queer Plays

In 1922-3-4-5, the writer played quarterback and left end for the Marshall (Ill.) high school football team, which won a lot of games against much larger schools in the Wabash Valley circuit because:

- (1) Its line was bolstered by several ox-strong 200-lb. farm lads, and
- (2) Its coach, Phil Brown of Butler university (who moved directly from this hamlet high school into a collegiate coaching position) was a clever fellow.

Phil taught us several trick plays which often produced game-deciding touchdowns. One, of course, was the old "sleeper" pass play, which goes like this:

The home team receives a kickoff, and 10 of the players sweep far to the right (including the ball carrier, who runs as far as he can toward the right sideline). The eleventh player, the left end, quietly sneaks over to the port-side of the field while the opposing team is rushing over to the opposite sideline. When the ball is downed, this left end flattens himself on the ground. The

attacking team lines up quickly, without calling signals, and its best passer heaves a long forward to the "sleeper." Presumably the left end catches it all alone, and romps unmolested to the goal line.

In the writer's junior year, he was assigned to be the "sleeper" in a tight game. The play worked fine, too, up to the crucial point. Nobody on the opposing team saw us sneak out to the sidelines. "Hiawatha" Kuhn's pass was perfect. We dropped it.

And ever since, whenever the writer returns to his home town, he is remembered in Marshall as "the boy who dropped the pass which cost us the championship."

Another Phil Brown play:

From a T-formation the quarterback took the ball from the center, pivoted, faked a hand-off to the left halfback, and then fell to the ground moaning, as if hurt (concealing the ball under his prostrate form).

Everybody else went galloping off to the right, as if on a wide-sweeping end run. When the defense was properly decoyed, the quarterback arose hastily and high-tailed it down the left sideline for a touchdown.

And a Third:

Our star ball carrier, Harry Sockler, would beef at the rest of us after he had been stopped a few times.

"You mugs aren't blocking for me," he'd yell (loud enough for the opposing team to hear). "You're letting me down. Nuts to you. I'm quitting the team *right now!*"

And Harry would stalk toward the bench, growling and muttering. All

our linemen would be in position, and all but the center would stand up, looking askance at Harry as he stomped off the field.

Nearly always the defending team would watch him, too—flat-footed and mouths ajar. Then the center would snap the ball back to our best passer, Harry would break into a sprint down the side line, snag a long heave, and be gone for a touchdown.

And this trick play of Phil Brown's never failed (high school teams weren't scouted in those days).

When we had the ball near the midfield stripe, on first down, a back deliberately would be "in motion" before the ball was snapped—to draw a five-yard penalty.

As the referee stepped off the five yards, this penalized back would argue with him, loud and vehemently. The team would line up and the back still would be arguing.

"Gimme that ball, Sam," he'd say to his center. "I'm going to put it back where it belongs."

Whereupon he'd take a perfectly legal hand-back from the apparently bewildered center, and step ahead five yards—counting loudly, "one, two, three, four, five."

The defensive players always watched this referee-defying procedure in amazement. And that gave the back an opportunity to make a dash for the goal line. He was never caught.

Ten regulars on Phil Brown's high-scoring high school football eleven became captains of their respective college teams. The eleventh didn't. Yup. That was the left end who dropped the "sleeper" pass. Me.

Don't Heckle the Coach

'Way back in 1927, Bob Zupke of Illinois coached four of the biggest linemen he'd ever seen: "Pansy" Wietz (268 lbs.), "Shorty" Burdick (289 lbs.), "Gorilla" Gordon (257 lbs.), and "Butch" Nowack (250 lbs.).

Nowack was hurt in scrimmage before the first game of the 1938 season. The remaining trio of rough-and-tough behemoths were ready, willing, and able to disable and disassemble opposing linemen when Illinois met Iowa in its first game. Iowa won, 7-0, thanks to a brilliant 69-yard kickoff return by "Cowboy Nick" Kutsch in the first quarter.

The following Monday "Zup" berated his giant linemen.

"Big as you are, you jerks can't stop a flea. Why, if I were as big as you, I'd be the Heavyweight Champion of the World."

"Mr. Zupke, sir," piped up Gordon, "why aren't you the world's flyweight champion, then?"

Gordon was demoted to the Reserves, then and there. Not until the following season did "Zup" give him another chance.

Write Your Own Headline

Quarterback "Frosty" Peters, eccentric star of Zupke's football team in the late twenties, wrenched an ankle in practice two days before the Iowa game; and it was announced he'd be unable to play.

This was bad news for Illini supporters. A campus newspaper headlined the story:

"ILLINI TO PLAY WITHOUT PETERS."

Managing editor this newspaper was a hard-working, conscientious lad, and it was his standing order that the first copy of every edition be delivered at once to his fraternity house. When the M.E. scanned this headline he reached for a phone, called the sleepy night make-up man, and screamed:

"That football headline on Peters is a *double entendre*. Stop the press, and change it quick."

The make-up man did. And the headline ran:

"ILLINI TO PLAY WITH PETERS OUT."

Tickets for the game and both the newspaper editions were sold and resold at a premium next day.

Original Research

"Doc" Spears ranks with Knute Rockne, Bob Zupke, "Pop" Warner, and Fielding Yost as one of the truly great coaches of college football's most glamorous era.

At the present moment Spears is out of the limelight. He's a hard-working, conscientious, physician and surgeon in Ypsilanti, Mich. He still loves football, however, and doesn't mind being interviewed on the subject.

Undoubtedly the greatest football player he ever coached was "Bronko" Nagurski of Minnesota and the Chicago Bears. Nagurski was the only

man in the history of the sport to be chosen an All-American at two positions: tackle and fullback.

"Shooting the breeze" with the writer recently in Ypsilanti, Spears revealed recently how he discovered Nagurski. He was head coach for the University of Minnesota at the time and, like all good mentors, was on the look-out for promising young giants.

An alumnus wrote him that a big brother of a lad—who'd scored 2 touchdowns in his senior year for Stockholm (Minn.) High School—was tending a gasoline filling station on the outskirts of that village, and had no plans for going to college.

Spears cranked up his Ford and chug-chugged up to Stockholm. Locating the filling station, he jerked to a stop and asked for five gallons of gas.

The attendant was a coach's dream—in the flesh. Six feet four, broad shoulders, calm but quick. Spears was impressed. Conversation followed. To his dismay, Spears learned that this catlike behemoth had never played football, knew nothing about the game, and wasn't interested in it. He was quite content as a filling station attendant.

"Doc" phoned the news to his tipster. The latter chagrined:

"You talked to the wrong guy. That was a big farmer—name of Nagurski—who works the other hitch at that gas station. Fellow I'm talking about is Johanneson."

Spears slept fitfully in the back seat of his Model T that night (damned uncomfortably) and next morning he met Johanneson—whom he easily persuaded to enroll at Minnesota U.

Driving homeward, he couldn't get Nagurski out of his mind. The way that big fella moved around... his natural grace...

Upshot of this reflection was that Spears influenced the Standard Oil regional director in Minneapolis to transfer Nagurski to the Big City.

From then on, the two made history together.

Wrote Westbrook Pegler (who was an ace sportswriter before graduating to the Cosmic Commentator League): "Nagurski is the only fullback who provides his own interference."

CASH IN ON THE BIG PROFITS OF SUPER-COLD COMPLETE FOOD STORE REFRIGERATION

Write for new liberal Distributor-dealer franchise agreement.

THE SUPER-COLD CORP.
1030 EAST FIFTY-NINTH STREET
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WE CARRY TUBE TO YOU

WE CARRY ON FROM HERE

WE CARRY ON FROM HERE

MANUFACTURER

One of our prospects (prior to becoming a customer) asked us whether we would sell tubing to him and also accept orders for tubing from his customers.

We shouted an emphatic "No!"

That question is often asked by those who select concerns to supply material as components of their finished products or for sale over their counters.

Over many years we have maintained a definite policy of not competing with our customers. We try to protect their interests for we sincerely appreciate the relationship we have with them.

As a customer, you can feel free to come to us for any help you need, knowing that your problems can be discussed with us in strict confidence.

If you're our customer, we like that. And we're not your competitor, so you like that.

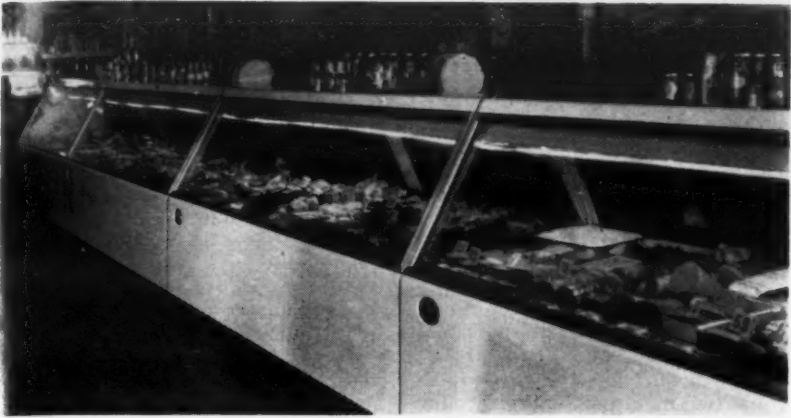
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Sales Offices in Principal Cities



Meat department of Forney's Market in Ravenna, Ohio, now has completely modern refrigerated display and the case salesman has a new outlook on selling equipment (see story below).

3 Circuits Operate from One Unit In New System For Knight Soda Fountains

CHICAGO—Stanley Knight Corp.'s new soda fountain line, introduced at the Dairy Industries Exposition, was marked by a new refrigeration system consisting of three separate refrigeration circuits operating from one condensing unit.

Each circuit is independently controlled and can be adjusted to the exact requirements of that portion of the soda fountain. This means that proper temperatures can be maintained at all times for: brick, flavor, and dipping creams; soda and water; bottled goods; fruit toppings and syrups.

In this new system the ice cream section evaporator plates, connected in series, comprise one circuit. The syrup rail and storage compartment evaporators comprise the second circuit. The instantaneous water cooler is connected in the third circuit.

Refrigerant is fed to the ice cream section plates through an expansion valve and finally through a heat exchanger and a check valve, then being returned to the unit through the suction line. The check valve prevents the back-up of higher temperature and relatively high pressure refrigerant from the syrup rail, bottle storage, and water cooler evaporators to the lower temperature ice cream evaporators operating at relatively low pressure.

The syrup rail and bottle storage are refrigerated by means of direct expansion copper coil evaporators

fed by an adjustable expansion valve. The refrigerant passes through the syrup rail expansion coil to the bottle storage, then through a suction pressure regulating valve back to the condensing unit.

The instantaneous water cooler consists of a copper refrigerant coil, a copper water coil, and a stainless steel soda water coil, all cast in a solid block of aluminum. The block of aluminum serves as assurance against damage by freeze-up and as a hold-over to prevent short cycling, thereby eliminating the need for a surge tank. Refrigerant is fed to the unit by a non-adjustable expansion valve.

Other new features of the Knight fountains include additional syrup rail capacity, one piece top, and accurate sanitary pumps.

Acme-National To Occupy Larger Quarters Jan. 1

BROOKLYN — Acme-National Refrigeration Co., Inc., will move its general offices and manufacturing department, now located at 634 Dean St. here to 29-24 40th Ave., Long Island City on Jan. 1, the company announced recently.

The new facilities are expected to triple present space and enable the firm to keep up with the increased volume of sales it is enjoying, according to Sidney Spielman, president.

Spielman also announced that a new line of refrigerators embodying many new and exclusive features will be introduced early in 1951. The new line will be backed by a greatly expanded advertising and sales promotion campaign.

See Proper Safety Locks Taking 'Catch' Out of Market Walk-Ins

DETROIT—A wave of supermarket robberies here in which the store employees have been locked in the meat cooler while bandits rifle the safe recently prompted the *Grocer's Spotlight*, regional grocery publication, to advise its subscribers to equip their coolers with safety locks.

The paper referred prospective safety lock customers to the Refrigeration Contractors Association of Detroit for service. It said:

"When installing new cooler equipment be sure it is equipped with a safety lock. Some of the older models have locks which robbers can jam from the outside, merely by slipping a stick of wood into the slot where the bolt should go. This action prevents anyone inside from getting out."

"A new type automatic release assembly or so-called 'safety latch' can be put on your old ice box for about \$35. This price includes both the price of the lock and installation. The door flies open when pressed from inside with this setup. That's cheap insurance."

Another method of getting out of locked coolers, cited by the journal, is to provide an emergency door where it is not easily noticed.

Plan Cooling for New Ballroom

LYNCHBURG, Va. — Directors of the Virginian Hotel Corp. have voted to go ahead with construction of a six-story addition which will include an air conditioned ballroom.

The Case of the Unexpected Sale

Surprise Purchase of Additional Equipment by Market Gives Young Salesman New Slant on Selling Cases

AKRON, Ohio—You wouldn't think that the sale of only one display case to a store which needs more would please a commercial refrigerator salesman.

But it does young Fred Dannemiller here since he found out that the one case can sell others—almost by itself.

Fred is associated with his father, Lawrence, long-time distributor for Sherer-Gillett Co. in this area. Following a period of supervised sales training, Fred is now out on his own.

To support his belief, Fred cites the case of the "unexpected" sale. This sale was the outcome of one he had to work for.

He worked to sell 18 ft. of Sherer single-duty cases to Forney's Market, Ravenna, Ohio. The new units were installed alongside older, competitive-make cases.

Naturally, the new display made

the old equipment look even older. So Fred was called back to figure on more equipment so that the entire meat department might benefit from a completely modern refrigerated display.

"That second sale of three more cases so quickly was entirely unlooked for," Dannemiller observed. "In addition to being unexpected, I guess you can call it my sweetest sale."

"It has also given me an additional perspective on just what the potential of a particular market can be. Even though I'm able to sell one piece of equipment to a store that needs three or four, I'm glad to take the order."

"I know that before long, the one case will do most of the selling for me and will convince the market operator that if one case will help him, two will give him even more sales and profit-making help."

Chart Shows How 'DO' Ratings Are Used by Defense Dept.

WASHINGTON, D. C.—A chart for businessmen that is designed to help them understand how the Department of Defense uses its "DO" priority ratings has been made available by the Munitions Board here.

Copies may be obtained by writing the Munitions Board, Room 3D-780, Pentagon, Washington 25, D. C.

Layout Draftsman, Designers

Several job opportunities available for individuals with knowledge of sheet metal stampings and fabrication, some experience in cabinet design and development helpful. Excellent working conditions. Send complete up-to-date resume. State salary expected.

Box 3619, Air Conditioning & Refrigeration News

4 Men Added to Staff of Tenney Engineering Div.

NEWARK, N. J.—Tenney Engineering, Inc., manufacturer of commercial refrigeration, heating, air conditioning, and test chamber equipment, recently announced personnel additions to the engineering division.

Otis C. Wyatt, Jr., formerly refrigeration engineer with General Electric Co., has been placed in charge of refrigeration system layout. Wyatt is a graduate of the Texas Agricultural and Mechanical college.

Frank Gardner has been appointed assistant to J. P. McCormack of the design department. S. H. Press and S. B. Sternbach have been added as special design engineers.

Parts Wholesaler Names Hubley

YORK, Pa. — Appointment of George Hubley as manager of the Lancaster store of York Radio & Refrigeration Parts has been announced by Leo Hochberger.

Now!

WITH THE NEW 1951 MODEL

Crystal Tips

ICE MAKER

50% MORE ICE!

HERE'S the brand new Crystal Tips Ice Maker—Model U-501—that opens a whole new range of sales possibilities and means more profits for you.

Tell your prospects that the completely automatic Crystal Tips Ice Maker now produces 50% more ice . . . is only 38 3/4 inches in height for neat and convenient under-counter installation. Watch the quick reaction you get to these sales advantages that only the Crystal Tips Ice Maker can give you.

The compact cabinet contains the entire unit and includes the large storage bin holding approximately 110 pounds of ice. Of prime quality steel, bonderized and finished in a glossy light blue enamel, the Crystal Tips Ice Maker is pleasing to the eye as well as the pocketbook. Many proud owners report their investment paid off within the first year of operation with savings as high as 85% on their former costs for ice.

DEALER INQUIRIES INVITED
Please Use Coupon

SWEEPING APPROVAL OF THE ROUNDED ICE "CUBES" WITH THE EXTRA COOLING SURFACE

Crystal Tips were a hit right from the start. The shape and freezing method are secrets of why Crystal Tips don't stick together like ordinary cubes . . . why they chill drinks faster and keep them fresh longer . . . why they are crystal-clear instead of cloudy.



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● Please advise me whether a dealer's franchise for the Crystal Tips Ice Maker is available in my territory.

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Business Firm _____

Address _____
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Feature the New **DARI-KOOL** *Nationally Advertised*

THE MILK COOLER THAT OUTSELLS THEM ALL

- Expands to any capacity
- Removable tank cuts upkeep
- Glacial Waterfall prevents spoilage



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DEALERSHIPS AVAILABLE

Write today for full details on choice DARI-KOOL dealerships.

Cut yourself in NOW on the record-smashing sales DARI-KOOL is making from coast to coast. Packed with exclusive features and sensibly priced, the ruggedly built DARI-KOOL is the milk cooler dairymen want and buy. That's why DARI-KOOL is selling faster than any other milk cooler on the market!

DAIRY EQUIPMENT CO. 1444 E. Washington Avenue, Madison 3, Wis.

Market Solves 3 Problems with Separate, Air Conditioned Produce Room

LAKEWOOD, Colo.—An air conditioned, glassed-in produce department with its own check-out stands is an unusual feature which is building produce sales for the new Lakewood Market, super-streamlined food store operated by Con Becker on West Colfax Ave. here.

In designing his separate produce department, the supermarket operator had three aims in mind: to increase produce sales by appealing to every type of buyer; to cut down on spoilage and other loss; and eliminate the necessity for weighing, bagging, and inspecting produce at the regular check-out stands serving the rest of the market.

To accomplish these goals, Becker first segregated the entire produce department in a 30 by 18-ft. room

at the left rear of the store, next to the meat market. Here, a glass wall separates all "green goods" from the open self-service grocery department.

Walls from floor to ceiling are ceramic tile, the floor is rubber tile, and all display fixtures are of yellow porcelain and stainless steel. This permits the store to regularly hose down the entire room with high pressure water, without fear of damaging fixtures or equipment.

To do away with the expensive spoilage, the entire room is air conditioned to a 40-50° temperature by a package unit concealed behind the wall, and supplying five tons of refrigerative capacity. Thus, everything in the room is under properly controlled temperature, and salable life of most perishables has been ex-

tended by 300%.

Along with air conditioning, a mist-spray system is used on the rows of produce to supply the humidity necessary in Colorado's arid climate.

Customers enter the produce department at the rear, through swinging glass doors, and leave by a similar door at the front. This opens to two check-stands which admit the produce customer into the grocery department again.

The check-stands are similar to those at the six regular check-stands except that they have no cash registers, and face the other way. The girl on duty quickly inspects, weighs, and prices each produce purchase, stapling the bag shut with a hand stapler, and grease-penciling the

price indelibly on the side of each sack.

Becker believes that this two check-stand system is the greatest asset of the unusual produce department, inasmuch as regular checkers now have to spend less time on checking out produce.

One girl is on duty at the produce-entrance check-stands through most of the average day, with another stepping in during sales flurries.

Reported net results are produce sales 20 to 30% better than average for a similarly-sized standard department, due to the high eye appeal of the department and its extreme customer-pleasing cleanliness, spoilage cut to less than 1/2 of 1%, and finally, important savings in time at the market-front check-outs.

Ingham Aids Works Mgr. At UsAirco Minn. Plant

MINNEAPOLIS — George W. Ingham, has been appointed by the United States Air Conditioning Corp. as assistant to works manager of its Minneapolis plant.

Ingham, formerly general superintendent in charge of air conditioning at the Worthington Pump and Machinery plant in Holyoke, Mass., will assist works manager H. J. Schorle.

Educated in the Rochdale Technical School in England, Ingham came to the United States during the first World War as a technician for Rolls-Royce to develop its engine for war production.

Wrenn Bros. Gets Contract

GREER, S. C.—Construction of the \$500,000, 28-bed Greer unit of Greenville General hospital will be started around Jan. 15, according to William H. Watkins, general manager of the McKoy-Helgeson Co. of Greenville, which has the general contract.

Low bidder on the air conditioning, heating, and ventilating contract was the firm of Wrenn Bros.

New G-E Distributor Named

CHATTANOOGA, Tenn. — Announcement is made that Pasco Distributors, 1433-35 Market St., here, has been named authorized distributor of General Electric heating and air conditioning equipment.

Water Rationing Seen Likely Unless Supply In Connecticut, Newark, N. J. Is Boosted

DETROIT—Water supplies in Connecticut and in the Newark, N. J., area have dwindled to a dangerous low, according to recent reports received here.

Connecticut's water table is drying up, the level of some reservoirs is dropping, and water consumption by the public and industry is increasing, George C. Waldo, chairman of the State Park and Forest Commission, told the state's first conservation conference.

Waldo urged initiation of a public-

supported movement to conserve the state's natural resources. He said such a campaign is "becoming increasingly urgent."

William S. Wise, chief engineer of the State Water Commission, reported that water usage in the state is increasing annually by the amount needed to supply a city of 35,000 population.

The conference was warned that it may become necessary to ration water.

Wells in the Newark area apparently are approaching the upper limit of safe yield, a survey conducted by federal and state geologists shows. In the more heavily pumped regions, the situation is close to the critical state, the survey revealed.

A preliminary report said "there is good evidence to indicate that the gradually increasing rate of pumpage in the area cannot long be sustained by natural recharge (rainfall and snow)."

POSSIBLE TO 'RECHARGE' BEDS

"However, there may be an opportunity for a substantial increase in the withdrawal of ground water if the aquifers (water bearing beds) can be recharged artificially through wells during periods when excess water is available from other sources, such as the Newark public water supply.

"Such artificial recharge should be effected during the winter months, for much of the ground water is used for cooling, and winter recharge would result in storage of water at winter temperatures for use during the following summer."

In announcing findings of the survey, Oscar L. Chapman, U. S. Secretary of the Interior, pointed out that "relatively good water is derived from precipitation, but wells that are replenished in part from the salty water of the river or the bay are likely to yield highly mineralized water that may be good only for cooling or fire protection."

Joint ASHVE, ASME, ASRE Meeting In Detroit To Discuss Human Comfort

DETROIT—Holding a joint meeting for the first time, local chapters of ASHVE, ASME, and ASRE will participate in a symposium on "Human Comfort" to be held in the small auditorium of the Rackham building at 8 p.m. Monday, Dec. 11.

With James N. Livermore, manager of Detroit Edison Co.'s construction department, serving as moderator, four speakers will present formal talks before the open forum discussion begins.

T. Napier Adlam, vice president and general manager of Sarco Mfg. Co., will discuss "Radiant Heating"; Bradlee Pruden, chief mechanical engineer of Giffels & Vallet, Inc., "Refrigeration for Air Conditioning"; H. E. Ziel, mechanical engineer with Albert Kahn Associates, "Ventilating"; and Prof. Axel Marin, University of Michigan, "Heating."

In addition, there will be a "coffee speaker" at the dinner preceding the symposium in the person of Donat A. Gauthier, French consular agent.

Holliday Heads Division For Liquid Carbonic Corp.

CHICAGO — The Liquid Carbonic Corp., here, has announced the appointment of Peter G. Holliday as sales manager of the newly-formed Contract Manufacturing division.

The division has complete metal working facilities available for both industrial and defense work.

Kelvinator Names Schoelles

ELMIRA, N. Y. — Kenneth R. Schoelles has been promoted to district manager for Kelvinator in the Elmira area.

MORE FOR LESS!

Kay-Tee

UNIT COOLERS

by **KRAMER**

OFFER MORE BTU'S FOR LESS MONEY.

These savings are the results of extensive engineering and the development of a newly patented KRAMER coil construction (Pat. No. 2,462,511). The traditionally high standards of KRAMER quality are maintained.

GUARANTEED RATINGS are based on tests made in accordance with accepted standards.

BUILT-IN HEAT EXCHANGERS are an integral part of all units.

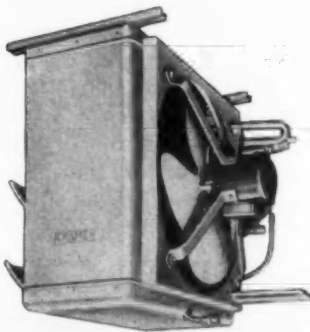
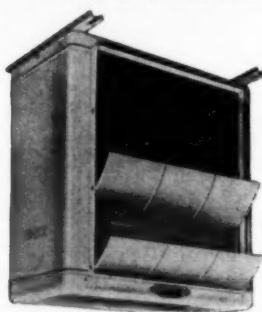
FEELER BULB LOOP extending outside the case, facilitates easy mounting of the feeler bulb between the coil and heat exchanger.

NO RUSTING with all aluminum cases.

DIE STAMPED handsome cases.

TWO ADJUSTABLE LOUVERS permit diffusion of the air stream.

STANDARD EXPANSION VALVES can be used. Units are designed for normal pressure drop, external equalizers are not required.



Write for Bulletin KT180

KRAMER TRENTON CO. Trenton 5, N. J.

THERMOBANK - COOLMASTER - RADIAL UNITS - PANEL UNITS - CUBERS - FINNED COILS - BARE TUBE COILS - HEAT INTERCHANGERS - CONDENSERS Air Cooled, Water Cooled, Evaporative - WATER COOLING EVAPORATORS - BLAST COOLING COILS - BLAST HEATING COILS.

FOR REFRIGERATION AT ITS

Very Best

SEE THE LIFETIME
P-H LINE
WITH GRAD-U-MATIC
AIR CONDITIONING

Reach-In Refrigerators
Pass-Thru Refrigerators
Dairy-Delicatessen Cases
Display Cases — Double Duty
Dough Retarders
Dry Beverage Coolers
Florist Refrigerators

Underwriters' Approved

PUFFER-HUBBARD
MANUFACTURING COMPANY
GRAND HAVEN, MICH.

WITH THE
"HIDDEN HALF"
YOU'VE GOT THE
WHOLE SHOW

WATCH THIS PUBLICATION NEXT MONTH FOR A STARTLING OFFER

TELLING and SELLING

A GUIDE TO SMART ADVERTISING AND
MERCHANDISING PRACTICES

This series of articles comprising ideas and principles for the small retail or manufacturing business is written by James D. Woolf, who was for more than 20 years a vice president and director of J. Walter Thompson Co., one of the largest advertising agencies. Out of his experience embracing all types of advertising and merchandising he brings his counsel to the small businessman who must plan his own advertising and promotional efforts.

By James D. Woolf

Our Cherished Notions

In a splendid article, "Raw Materials of Persuasion," Louis J. Halle, Jr., asserts that "Most of us are open to persuasion only within narrow limits. . . . We have done our accepting and rejecting and have emerged from the process with convictions that we are prepared to defend against the world."

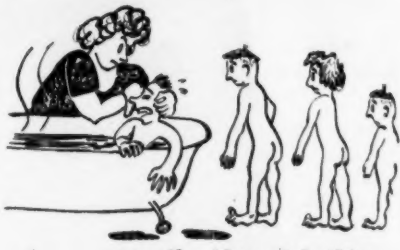
This comment of Mr. Halle's had no reference to advertising. But I believe it provides food for thought for the advertiser and the ad man.

People do not easily change their ideas and their prejudices. They cherish their pet notions as fondly as an infant cherishes the comfort of its mother's bosom. H. L. Mencken once remarked that "it is a terrific job to ram even the most elemental idea into the average man."

The inventor of America's first bathtub, Cincinnati's greatest contribution to civilization, was nearly jailed for it. Supported by the medical profession, people generally branded the contraption as an invention of the devil. Even today millions of Americans, who believe that "an apple a day keeps the doctor away," believe that a bath a day is a short cut to their graves.

It takes a long, long time to sell *Homo sapiens* a new idea that conflicts with a cherished notion or an

"Saturday Review of Literature," issue of March 11.



(... even the idea of bathing had to be sold ...)

established habit. It is not so long ago when people everywhere jeered at King Gillette's ridiculous safety razor. He sold only fifty-one razors in the ensuing two years after it went on sale.

REPETITION IS REPUTATION

There is solid sales sense in the doctrine that "repetition is reputation" and that "keeping everlastingly at it brings success." I know of one now-famous cosmetic that broke into the black only after seven years of persistent advertising. The product, like the bathtub and the daily bath, represented a departure from established habit, and the public yielded to the new notion grudgingly.

It is my belief that much advertising fails of its objective because it quits too soon. Because the advertiser is short either of cash or courage, or perhaps of a deep-down confidence in his product, he gives up

the ghost in despair. It is a tragedy that in many of these failures another year or two of patient promotion might have changed the picture from red to black.

I am convinced, too, that advertising failure or half-failures are often due to the impatience and jittery temperament of the advertiser. He refuses to stay put. He keeps his agency in a constant dither with his insistent cry for "new ideas."

Even when his sales curve is satisfactory, he tires of "the same old stuff," demands something different, and continually accuses his agency of a deplorable lack of creative imagination.

STAY WITH IT

I hold to the conviction, based on long experience, that when an advertiser has a promising idea he should stay with it. For 20 years or more Lux Toilet Soap has clung tenaciously to one central copy theme, "Nine out of ten movie stars use Lux." Prudential has from time to time made changes in its advertising "dress," but not once in a lifetime of years has it departed from its famous "Rock of Gibraltar" central idea. I have always thought that an advertiser should not adopt a central theme unless he is reasonably sure that he will hold to it for a long, long time.

It seems to me that retailers particularly are inclined to "jump all over the lot."

Their advertising has no central theme, no distinctive "personality," no consistent point of view, no cohesiveness, no attitude.

Conforming to no master plan, it is a hodgepodge of unrelated "ideas" sold to them by printing salesmen, newspaper solicitors, peddlers of



(... a single symbol can act as a powerful persuader ...)

calendars, book matches, blotters, and an amazing variety of novelties and gimmicks.

HAVE A MASTER PLAN

Get yourself an idea, a clean-cut philosophy of doing business, an attitude—and then stay with it. Your idea need not be a world-beater or a stroke of genius. A simple concept, provided it appeals to a human need, is all that is required.

The important thing is to keep driving it home day after day, week after week, month after month, year after year—until at last you have persuaded your community that you have, in abundant measure, a certain something it wants.

In my town the "Pay-Less" Drug Store, where "It's Smart to Pay Less and Save More," has in its very name a fine central theme it has stuck to faithfully for years. The Cammack Office Supply Co., of Burlington, N. C., reports it is hitting the jackpot by focusing all its advertising on three magic words—"Guaranteed

Customer Satisfaction." With radio, newspaper, and window posters it is seeking to make GCS as well-known as Lucky's famous LS/MFT.

Speaking of persuasion, psychologists agree that we remember most vividly those things that are impressed on our consciousness in terms of a single symbol or idea.

Gramer and Bartels Take New Posts at Hotpoint



C. C. GRAMER



WM. C. BARTELS

CHICAGO—Clifford C. Gramer has been appointed advertising manager and William C. Bartels sales promotion manager, Hotpoint, Inc., it was announced by William E. Macke, head of the merchandising division.

Gramer has been assistant merchandising manager, and replaces Richard S. Holtzman who was promoted to zone manager, Los Angeles district.

Heiland Opens In Utica

UTICA, N. Y.—Edward Heiland has opened a new appliance and television store at 334 N. Genesee.

SHE'S A BETTER SECRETARY



THANKS TO THIS TECUMSEH EQUIPPED WATER COOLER

It's a better cooler . . . because it is equipped with
TECUMSEH Hermetic unit

GOOD HEALTH AND GOOD WORK HABITS are mutually dependent realities; thus, wise employers do everything possible to maintain the good health of their employees.

Medical men agree that one of the most important daily essentials to good health is an adequate water intake both summer and winter; which also represents, pleasantly enough, one of the most inexpensive means of helping to maintain work efficiency.

The application of drinking water coolers in commerce and industry is increasing rapidly; and the application of Tecumseh Hermetic compressors by water cooler manufacturers continues at the same

high level . . . for Tecumseh Hermetic compressors are famous the world over for their long-lasting, trouble-free performance, their low operating cost. Here are just a few of the many reasons for their superiority:

Large, oversize bearings; counterweighted crankshafts; super-finished bearing parts ($\pm .0001"$); Chief-tained connecting rods and pistons; simple and positive motor controls; leakproof motor terminals.

Many models include both fan-cooled and static condenser type units. In various combinations of compressors, motors and condensers, they cover the entire range of applications from 1/9 h.p. to 3/4 h.p.

Write for complete information.



TECUMSEH PRODUCTS COMPANY
TECUMSEH, MICHIGAN

EXPORT DEPARTMENT: 2111 WOODWARD AVE., DETROIT 1, MICH.

World's largest independent producer of compressors and condensing units for the refrigeration industry.

for Domestic, Commercial and Low Temperature Cabinets NATIONAL LOCK refrigerator hardware

standard and custom-built designs...

SURFACE TYPE HARDWARE

"THRU-THE-DOOR" HARDWARE

EDGE-MOUNTED HARDWARE

PLASTICS

DIE CASTINGS

SCREWS AND BOLTS

ask us about them



NATIONAL LOCK COMPANY

Rockford - Illinois
Refrigerator Hardware Division

Every

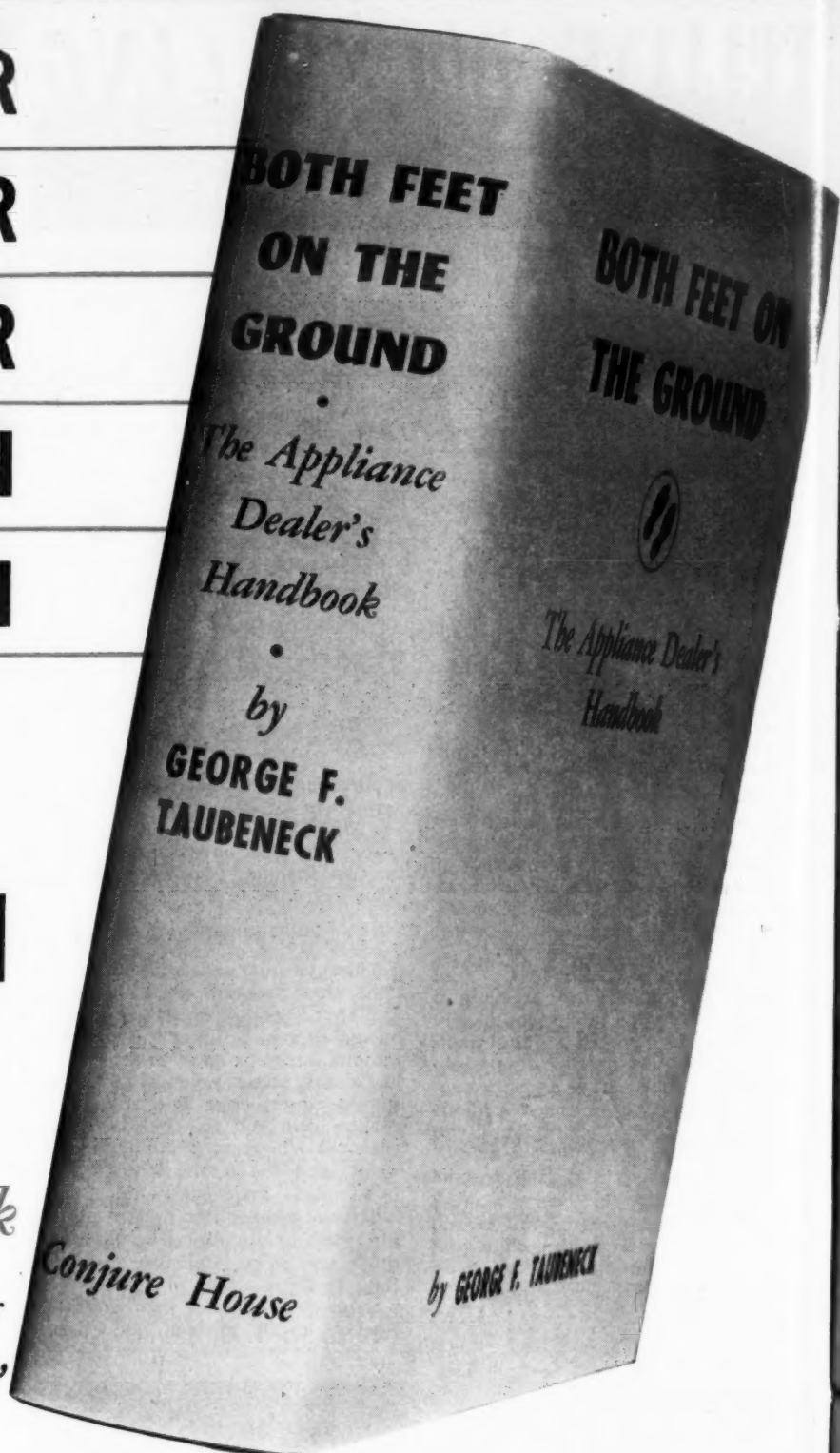
DEALER
DISTRIBUTOR
MANUFACTURER
SALESMAN
PROGRESSIVE BUSINESSMAN

Should Read

BOTH FEET ON THE GROUND

The Specialty Dealer's Handbook

by **GEORGE F. TAUBENECK**, author of
"ONE FOOT IN THE DOOR"



This book wasn't written... *It was lived!*

This encyclopedia of appliance and specialty retailing was not dictated from any ivory tower! It was carefully assembled and organized from notes taken during thousands of interviews with 323 of America's finest and most successful appliance and specialty dealers.

Twelve months and 52 weeks in every one of the last 20 years, George F. Taubeneck, as editor and reporter for AIR CONDITIONING & REFRIGERATION NEWS, listened and noted and listened again to the real authorities on retailing—men in the retailing business. America's finest dealers not only sponsor this book, but are responsible for it. They actually *LIVED* every one of the tested experiences, attitudes, actions and reactions, that are mirrored in the Handbook's 600 plus pages.

No wonder "Both Feet On The Ground" is a complete guide book to the most profitable way to operate an appliance or specialty dealership! It is a weighted summary of the very best dollar-producing approaches to every dealer problem, right from selecting the franchise, to closing the books in black, at the end of the month. There isn't one aspect of running an appliance business that isn't treated in this Handbook. A convenient index makes it easy to answer any problem, large or small, with just a flick through the pages.

Anyone who hopes to become a better retailer can find, in this wonderful new book, basketsful of dollar-making ideas he can apply to his own business, in his own way.

Manufacturers and distributors, who rely on retail outlets for sales of your products, see an abundance of new ways to merchandise to your dealers, to create more demand for your particular refrigerators, ranges, washers, disposers, humidifiers, and freezers. See the business as retailers see it.

Send for a copy of this new book today. Use the purchase order form at the right and mail it immediately. It is still not too late to cash in on the ideas the Handbook presents on "how to increase sales at Christmas time." (If you prefer you can order a copy on approval. If not completely satisfied, return the book under no obligation.)

The publication of this book could not have been more timely if we ordered an exact date. With the imposition of Regulation W, hard, determined selling and promotion are needed to move merchandise. And that is exactly what this book does—it gives you tested methods to use in moving appliances and specialties off the floor and into the consumer's home, regardless of the obstacles in the way.

ATTENTION MANUFACTURERS AND DISTRIBUTORS:

This book would make a handsome and invaluable gift this Christmas for your wholesalers and retailers. You can be sure they do not have anything similar! And what could be more thoughtful than a book that shows in 1, 2, 3 order just how to go about increasing sales and running a specialty dealership successfully.

**638 PAGES, 9" X 6" BOUND
IN DURABLE HARD COVER.
PRICE PER COPY \$5.95**

ON MONEY-BACK GUARANTEE

Air Conditioning & Refrigeration News
Conjure House Book Division
450 West Fort Street,
Detroit 26, Michigan
Gentlemen:

Please send me copies of the wonderful new book by George F. Taubeneck, "Both Feet On The Ground," at \$5.95 per copy. My check for \$..... is enclosed. (You may order this book on approval. If it does not completely satisfy, you may return it under no obligation.) ☐ Send on approval.

Name

Address

City

Zone

State

12-4-50

YOU KNOW THE AUTHOR...

George F. Taubeneck for his brilliant books on specialty selling, salesmanship, and sales management. "One Foot In The Door," "It's A Great Life," and "The Marshal's Baton" still sell copy after copy every week.

Now, George submits perhaps his most important work, "Both Feet On The Ground" for use and study by our Industry.

His 20 years as Editor and Publisher of AIR CONDITIONING & REFRIGERATION NEWS eminently qualify him for the job of compiling such a Handbook, and the results are beyond our fondest hopes. In his work as reporter, editor, ambassador to the Industry, and champion of the businessman, literally thousands of hours have gone into his interviews and travels throughout the country, and the world. The wisdom and knowledge he picked up along the way are reflected in every one of his books.

"Both Feet On The Ground" renders at a time when such service is perhaps more sorely needed than ever before, because of credit restrictions, unique guidance to all of America's appliance and specialty dealers and the manufacturers and wholesalers who supply them. Taubeneck's insight and grasp of the core of every problem in retailing, as learned by and from men in the business all their lives, provide counsel and assurance to all concerned. In months like these, when we don't know from one day to the next, whether we'll be in a shooting war or a cold war, whether there will be oversupply or undersupply, or whether there will be credit restrictions or no credit restrictions, it pays every man concerned with the appliance and specialty business to be prepared for any conditions, favorable or not.

"Both Feet On The Ground" offers a sure, sound, and sensible way to be prepared.

**Use This
Order
Form
Today!**

Special Filing Cabinet Solves Problem of What To Do With Mfr.'s Lit.

ELMIRA, N. Y.—The problem of how to keep manufacturers' literature so that it can be located readily has been solved by Hample Fixture Co. here, distributor of air conditioning and refrigeration equipment, through use of a special filing system.

"We usually receive so many different promotional pieces that we found ourselves swamped with them," owner Bob Hample said. "Nevertheless, we need all this material as a wedge in selling to customers, for direct mail campaigns, and for other uses."

What happened was that the numerous leaflets, bulletins, and folders were "just piled up on tables." As a result, personnel had to rummage through sizeable stacks of material to find a particular piece of literature.

To correct this situation, the company decided to use a special set of filing cabinets and an index chart. The cabinets have a series of drawers, each of which is numerically identified.

On the chart is listed all the products of the manufacturers whose lines Hample Fixture handles. Opposite each item is a number which corresponds with the drawer in which literature on that item is contained. The literature of more than one manufacturer may be in the same drawer if it pertains to the same kind of product.

Thus, by referring to the chart, company employees can locate easily and quickly any piece of literature needed. The system also permits the firm to check up on its stock of literature without difficulty so that replacements can be ordered when required.

Proper handling and stocking of manufacturers' literature is an important activity at Hample Fixture. The firm has found this material extremely helpful in promoting and selling their lines, and appreciates the expense to which manufacturers go in preparing it, according to Hample.

In another move, the company has divorced the sale of equipment from its installation. This was accomplished when one of the firm's regular servicemen agreed to handle all installation and service work on an independent basis.

Under this arrangement, prices quoted to customers cover only the sale of a product. The customer is then free to have the installation work done by anyone he chooses, or, if he wishes, the job is referred to the independent serviceman. The latter can be paid directly or through Hample Fixture.

Although the serviceman works as an independent, he is obligated to do all Hample Fixture's work first. In addition, his records are available to the company for checking on prospects for replacements or new equipment.

The company has found it much easier to sell air conditioning and re-



SALES AIDS: Bob Hample of Hample Fixture Co. finds a display of photographs (above) showing air conditioning and refrigerator installations helpful in closing sales. (Below) He files away manufacturer's literature in a handy drawer-cabinet.



frigeration equipment this way. For one thing, letting the customer decide who is to install the equipment is said to prevent him from feeling that he is being overcharged.

Also, the setup permits Hample Fixture to concentrate all its efforts on selling the equipment.

The company, which has been in business more than 38 years, has discovered that personal contact is the most effective way to sell air conditioning and refrigeration equipment. Newspaper and direct-mail advertising and telephone calls are preliminary to personal calls but from this point on, calls are made until a prospect is either sold or crossed off the list.

Sammon To Los Angeles Office as Sunroc Expands

GLEN RIDDLE, Pa.—Sunroc Co. has announced the promotion of Robert Russell Sammon to the management of its Los Angeles office.

Sammon was formerly sales supervisor in the New York office.

"The planned expansion of the Sunroc Co. has been accelerated by the recent increase in industrial construction, the designing and building of specialized liquid cooling equipment for cutting oils, abrasive wheels, welding rod tips, as well as increased government business," the company stated.

Plywood Reefer Doubles As Box Car; Diesel Unit Provides Refrigeration

NEW YORK CITY—Mechanically refrigerated by a diesel-powered unit, a new combination reefer and box car constructed largely of plywood in place of steel has been demonstrated for railroad officials here by Pressed Steel Car Co., Inc.

Freight car payloads can be increased by about 50% with this new "Unicel" design, according to John I. Snyder, president of Pressed Steel. Only steel employed in its construction is in the high-speed trucks, door frames, and draft gear, saving some 20 tons of this hard-to-get metal.

Sides, top, and floor consist of plywood laminated with plastics and molded together under extreme pressure, so that the car derives its strength from its shape rather than individual steel members of the conventional reefer, it is claimed.

The mechanical refrigeration system included in the car was designed by Frigidaire Div., General Motors Corp.

The reefer is some 10 ft. longer than conventional cars, having an inside length of 50 ft. 6 in. When used as a box car it compares in size with a standard automobile box car. It is so designed, the company claims, that it can be used to carry a refrigerated load one way and ordinary cargo on the return trip, if desired.

Price is said to be in the neighborhood of \$9,000, compared with \$8,000 to \$9,000 for a standard reefer and \$5,500 for an ordinary box car.

Arkansas Group Plans New Ice Rink for Coliseum

LITTLE ROCK, Ark.—The Arkansas Live Stock Show Association here has announced plans to install complete refrigeration to provide an ice rink for hockey, ice shows, and similar events, in the huge Stock Show Coliseum.

The building, which has seating capacity of 6,000, was recently covered with a roof for the first time, which will fit it for year-round use. Dressing rooms, 60 tons of refrigeration capacity, and extra seating will permit the building to hold regular hockey competitions.

Cory Boosts Prices on Knife Sharpener, Coffee Makers

CHICAGO—Retail prices on three Cory coffee brewers and an electric knife sharpener were raised from \$1 to \$4.45 on Dec. 1, J. W. Alsdorf, president of Cory Corp. announced recently.

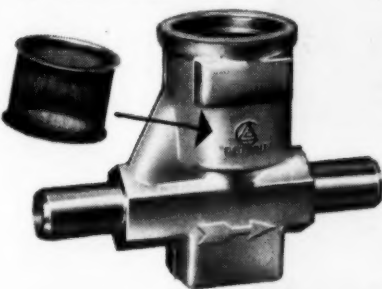
The model EAB Coralume automatic coffee brewer went up from \$22.50 to \$26.95; the model ABC custom automatic coffee brewer from \$29.95 to \$32.95; the model KDG 4 to 8-cup, regent glass coffee brewer from \$3.95 to \$4.95; and the model DKS-2 electric knife sharpener from \$11.95 to \$12.95.

Distributor prices on the first two coffee brewers mentioned will not be raised until Dec. 26 because these products are still on allocation. The other two products were raised to distributors at the first of the month.

demand DETROIT CERTIFIED VALVES



683 in forged brass body available with either flare (3/8" S.A.E. for 3/8" x 1/4" Reducing Nut) or sweat (3/8" or 1/2" O.D.) connections.



- ★ New plastic-impregnated water-proof coil.
- ★ Rugged forged brass body.
- ★ Large integral inlet strainer protects sweat and flare types.
- ★ Connections available for flare, sweat or pipe thread applications.
- ★ Sturdy mounting boss.

683 also available in cast brass body with 3/8" female N.P.T. inlet and outlet connections. (No. 685 Strainer available as an accessory.)



Eliminate Trouble

BEFORE IT STARTS WITH

DETROIT 683 SOLENOID VALVES!

One sure way to do your customers a favor is to install **DETROIT** 683 solenoid valves. You'll be doing yourself a favor, too, by positively eliminating the need for costly call-backs. Just check the outstanding features of the 683 and you'll see why. First, this remarkable valve is designed for adaptability

—three standard models available for flare, sweat or pipe thread connections. Add to this the water-proof construction, integral inlet strainer and "kick-off" spring for positive closure and you'll see that with the 683, trouble can't start because it can't get in! **DETROIT** solenoids are available in capacities from 3 to 20 tons Freon-12. So for replacement or new installation, demand **DETROIT** for the best in solenoid performance, service, economy!

DETROIT LUBRICATOR COMPANY

5900 TRUMBULL AVE., DETROIT 8, MICHIGAN
Division of **AMERICAN RADIATOR & Standard Sanitary Corporation**
Canadian Representatives: **RAILWAY & ENGINEERING SPECIALTIES, LTD.**—Montreal, Toronto, Winnipeg



DETROIT HEATING AND REFRIGERATION CONTROLS • ENGINE SAFETY CONTROLS • FLOAT VALVES AND OIL BURNER EQUIPMENT • DETROIT EXPANSION VALVES AND REFRIGERATION ACCESSORIES • STATIONARY AND LOCOMOTIVE LUBRICATORS

Serving home and industry. AMERICAN STANDARD • AMERICAN BLOWER • CHURCH SEATE • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON

WITH THE

"HIDDEN HALF"

EVERY PROSPECT
CAN BE SOLD

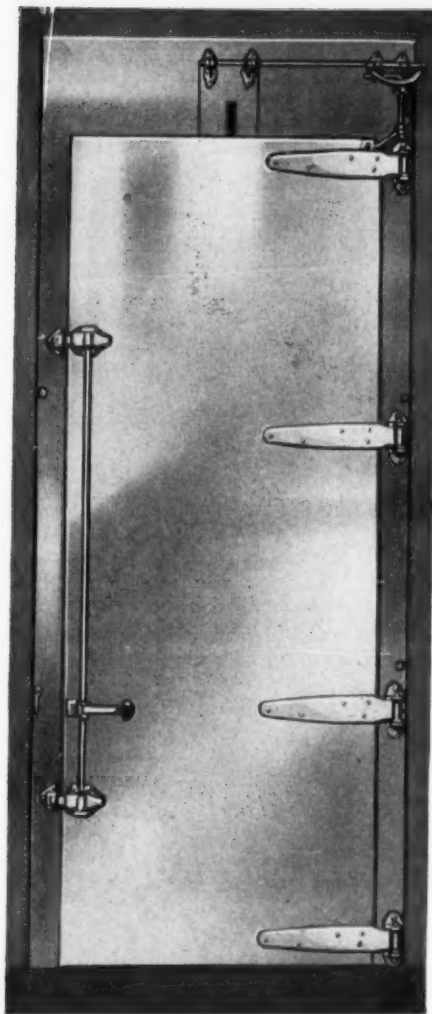
WATCH THIS PUBLICATION NEXT MONTH FOR A STARTLING OFFER

They'll Do It Every Time By Jimmy Hatlo



Do You Have 'Both Feet On The Ground'?

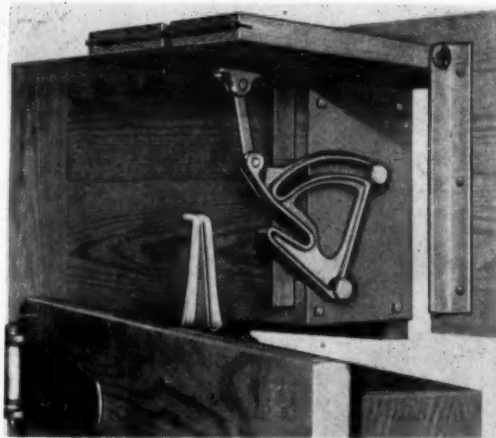
DOORS to SATISFACTION



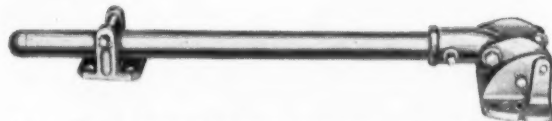
Husky, durable hardware for heavy duty cold storage doors
 • instant smooth opening • firm positive closing

CBS TRACK DOOR OPERATOR

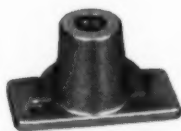
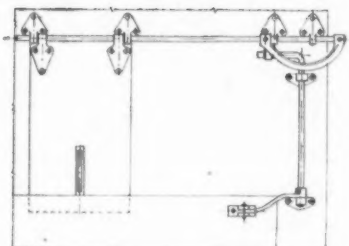
Malleable iron and steel
 Reversible
 Manufactured and sold under exclusive license from patentee



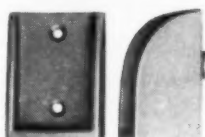
BUMPER BAR — for actuating main door locks from inside



No. 50 AUTOMATIC DOOR CLOSER — for main cooler doors



PODS for assembling sectional units.
 For 3/8 and 1/2-inch cut thread lag screws.



MEAT RAIL SOCKET
 to support wood meat-rails inside walk-in coolers

No. Z-326 DOUBLE LOCK
 with inside push rod

No. 1 FCS HINGES

No. 1 AUTOMATIC
 TRACK DOOR OPERATOR

WRITE FOR CATALOG 11

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 ROCKWELL MANUFACTURING COMPANY
 FREEPORT, ILLINOIS

AN INTERNATIONAL INSTITUTION • SUBSCRIBERS ALL OVER THE WORLD

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 U. S. Patent
 Office:
 Est. 1926



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F. M. COCKRELL, Founder

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Member, Audit Bureau of Circulations. Member, Associated Business Papers.

VOLUME 61, No. 14, SERIAL No. 1,133, DECEMBER 4, 1950

"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—Charles A. Dana.

Aluminum Use-Curtailing Order Doesn't Seem To Make Sense

PRODUCTION managers and top executives in the refrigeration, appliance, air conditioning, and automotive industries are shaking their heads about the 35% cut in aluminum usage edict which has been sent down from the modern Mount Sinai (Washington, D. C.).

To a man—and we've listened to at least three dozen of them in the last fortnight—they insist that it doesn't make sense.

"We'll have aluminum running out of our ears by April of next year," one highly-placed executive predicts. And "it's much too drastic," all agree.

Of course, the aluminum order could be an adroit, left-handed way of slowing down the production of consumer goods, and creating artificial unemployment (thus loosening the labor supply). In that case it would be akin to over-eager and ultra-drastic curbs on credit terms.

True, within 18 or 20 months, military aircraft producers may be chewing up a lot of aluminum. Looking ahead to that probability, Government Planners are prodding aluminum producers (and offering them special inducements) to boost their output by as much as two million tons a year. That's fine, and we're for it. We shall need a lot of aluminum in 1952.

But what about the Canadians who've been trying to sell the American Government surplus aluminum for our meagre stockpile for so long? Several times this year the Aluminum Co. of Canada has offered our Government 500 million pounds of aluminum ingots at attractive prices. Additionally, it's ready to produce and deliver all the aluminum we could need for our present interim defense program.

That generous offer hasn't been accepted. Instead, American aluminum users are ordered, arbitrarily, to cut down their purchases and fabrication of aluminum 35%.

To the Canadians (who recently approved an economic co-operation-and-integration agreement with us) this bureaucratic Order is silly, if not insulting. And to American manufacturers and consumers it's wearily reminiscent of World War II.

This time, it seems, the confusion isn't so well organized.

Thugs and Robbers Rely on Easy Access to Walk-In Refrigerators

AGAIN and again and again amateur robbers and professional thugs lock up employees of grocery stores, meat markets, and clubs and restaurants in "walk-in" refrigerators while they empty cash registers and safes.

Nearly every day you will read about an untoward event of this sort in a metropolitan newspaper. 'Tis a habit—and a "soft touch." And it happens so often that manufacturers and installers of refrigeration locker-storage and walk-in equipment should be alarmed. Why not install telephones in every butcher's "meat box?" Why shouldn't our industry help protect grocers and their employees from bitter experiences?

Incidentally, safety locks and alarm systems can be installed on existing equipment. This should be a profitable sideline and door-opener for commercial dealers and servicemen.

How Industry Can Combat 'Unfair Practices' With Trade Rules Outlined by FTC Official

NEW YORK CITY—How an industry should proceed in voluntarily setting up trade practice rules under sponsorship of the Federal Trade Commission was outlined by James A. Horton, director of FTC's Bureau of Industry Cooperation, before the recent annual convention of the National Commercial Refrigerator Sales Association.

The subject is an important one for this and other refrigeration contractor groups who have been opposing what they consider unfair competition on the part of dairies in sales of ice cream cabinets and allied equipment to store operators.

Queried as to his views on this problem, Horton indicated that "this is not a new question, and is already under investigation. FTC has not yet announced its findings, he explained.

"As you may know, the commission has been vested by Congress with the authority and responsibility of administering and enforcing certain laws [the Federal Trade Commission Act, as amended; Clayton Act, as amended by the Robinson-Patman Act; Export Trade Act; Wool Products Labeling Act of 1939] relating to unfair trade practices.

Types of FTC Procedures

"In order to carry out its obligations under these laws the commission has adopted several different procedures. Briefly, they may be referred to as the formal litigated cases, the informal cooperative proceedings, and the economic investigations and reports," Horton said.

"The formal litigated case method involves the issuance of a complaint and, if the complaint is sustained by the evidence, an order to cease and desist is issued requiring the parties involved to discontinue the practice found to be illegal. Such cease and desist orders under the Federal Trade Commission Act become final if not appealed to the United States Circuit Court of Appeals within 60 days from the date of the order.

"The effectiveness of this procedure has been strengthened considerably by a recent amendment to the Federal Trade Commission Act which makes parties violating such order subject to a civil penalty of \$5,000 for each day of continuing violation," he added.

"Informal cooperative proceedings consist of stipulations to cease and desist and trade practice rules. Stipulation procedure may be utilized when the party complained against is willing to agree to cease and desist from the practices complained against. This agreement between the party complained against and the commission is a stipulation.

"It is generally considered the most efficient and economical method of disposing of certain types of individual complaints. However, commission policy precludes its use in settling cases involving deliberate fraud or products inherently dangerous to purchasers; likewise to

monopoly or restraint of trade cases," Horton declared.

"The other part of the informal cooperative proceedings is the establishment of trade practice rules and this is what I am going to discuss from now on. Trade practice rules are not a recent innovation. In developing its philosophy of cooperation with trade and industry, and in the general interests of the consuming public, the commission early in its career initiated procedure under which fair trade practice rules may be established for an industry.

"This procedure is directed to the wholesale elimination and prevention of unfair methods of competition and unfair acts or practices on an industry-wide basis through the development, promulgation, and administration of fair trade practice rules covering pertinent practices of an industry. Conference proceedings are conducted on the basis of voluntary participation on the part of industry members and other affected parties, and anyone concerned in the matter may consult and advise at any time with commission representatives.

"Proceedings leading to trade practice rules may be initiated by the commission on its own motion or by application of an industry group. In the past most of these proceedings have been authorized by the commission upon application. In approving or disapproving an application, the chief factor considered by the commission is whether the request will result in something worth while in the public interest.

"Application for conference proceedings may be filed with the commission by an industry group, trade group, consumer group, or by an individual or concern," he explained.

Information Needed

"What should such an application contain? It should, of course, identify the industry concerned and give some description of its size and the kind of character of products involved. More important, it should disclose the acts, practices, or methods of competition it deems unfair. It is not necessary to submit suggested rules with the application. If the commission authorizes the proceeding we will be glad to sit down with you and assist in drafting appropriate rules on the practices involved.

"After the proceeding has been authorized and any necessary preliminary matters completed, a trade practice conference is announced to the industry. This meeting is the industry's conference.

"After this meeting all pertinent matters presented are brought to the attention of the commission, usually with recommendation for the release for hearing of a set of proposed trade practice rules. Upon approval by the commission, announcement is made of the time and place of the public hearing and copies of the proposed rules are made available to all.

"At this public hearing any mem-

ber of the industry or other interested party may present his views and be heard. It is only after the commission has carefully considered all matters submitted during the proceeding that final rules are promulgated for an industry.

"Final rules for an industry become effective upon a specified date, usually 30 days from date of promulgation. Copies of the rules are sent to all members of the industry together with an acceptance form.

Rule Changes Necessary

"Trade practice rules should not be considered static and unalterable once promulgated," Horton cautioned. "To be effective they must be established in the light of current practices. To this end provision has been made in our procedure for their revision when necessary. Application for revision of existing rules may be filed with the commission in the same manner as application for original proceedings.

"The over-all procedure is not formal in nature and the commission is willing to go more than half way with any and all groups in obtaining voluntary compliance with the law which it administers. If it is deemed helpful our staff may work with an industry committee or meet with any one desiring to consult with us. The procedure is sufficiently flexible to meet various situations as they arise.

"Trade practice rules promulgated

by the commission may be generally classified as either Group I or Group II rules. Group I rules proscribe practices as being unfair. They are expressive of legal requirements of the type coming within the enforcing powers of the Commission and thus a party violating such a rule may be proceeded against in a formal litigated case, not because he has violated a rule but because he has violated the law.

"Group II rules, on the other hand, are recorded expressions on an industry with respect to recommended practices on the part of its members. Rules of this nature, although having no legal sanctions for their enforcement, must be within the law and be considered desirable in the interest of good business and the promotion of fair competitive conditions. Rules of this character are observed by industry members on a voluntary basis.

"Now what are some of the advantages of trade practice conference procedure? First of all," he said, "it provides a means through which industry and the commission can work together in discussing the problems of the industry.

"Through this joint effort between the commission and an industry, a close liaison is often developed. Effective compliance of the rules is dependent to a large extent upon close liaison and cooperation between the industry and the commission.

"The commission has a group of attorneys whose job it is to work with the industry in obtaining compliance with the rules. These employees are anxious to assist in every way possible and where there is a similar cooperative attitude on the part of industry members, we find it relatively simple to obtain compli-

ance with the rules. Under such conditions alleged violations are often cleared up through a single contact and without resort to formal litigation.

"Trade practice rules afford opportunity for members of an industry to eradicate unfair practices simultaneously and on a wholesale basis. Unfair practices often are resorted to by a few unscrupulous persons in order to obtain an unfair competitive advantage. In some cases the honest businessman may feel that he is forced to adopt such unfair practice to remain in business. He would be happy to discontinue the unfair practice if his competitors also desist.

"Under trade practice rules, which go into effect on a specified date, this may be accomplished and each member of the industry may start out on the same fair basis of competition as provided by the rules.

Not a Panacea

"I hope I haven't given the impression that all alleged unfair trade practices can be settled through trade practice rules. There will always be a few who are unwilling to comply with the law. Also, there are some practices involving deliberate fraud and other matters which the commission is unwilling to settle through the adoption of trade practice rules. There will always be some matters which will have to be disposed of through our litigation.

"But, gentlemen, we are not concerned primarily with issuance of complaints and orders to cease and desist. Our objective is to obtain compliance with the laws.

"If we can obtain that objective through friendly cooperative relations with industry."

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BACK TO FUNDAMENTALS

Refrigeration Principles for
Beginners & Experienced Engineers, Salesmen, and Dealers

By K. M. Newcum, Author of
THE MASTER SERVICE MANUALS

Theory of Refrigeration-4

THERMOMETERS

The thermometer measures only the *sensible* temperature of any substance. Sensible heat is that which is evident to the senses and is demonstrated in Fig. 6. When water is heated, the increase in temperature may be felt by the finger, and also measured by the thermometer.

The thermometer can make only comparisons between the temperature of a substance or space and some definitely known temperature such as the melting point of ice, and/or the boiling point of water.

FAHRENHEIT SCALE

It was with this in mind that the thermometer was invented and put into use. The melting point of ice (which is also the freezing point of water) is reckoned to be 32° above zero (+32° F.). The boiling point of pure water at sea level is fixed at 212° above zero on the Fahrenheit thermometer scale (+212° F.).

The thermometer then only indicates in degrees the temperature of any space or substance by comparing that temperature with some known temperature, such as the melt-

ing point of ice or the boiling point of water.

The thermometer does not measure the *amount* or *quantity* of heat contained in a substance. This *quantity* is determined by multiplying the weight of the substance by the specific heat and by the temperature.

Thus the thermometer indicates only the *intensity* of heat—how hot or how cold, by comparison.

Following the Fahrenheit thermometer scale (Fig. 9) it will be noted that between the melting point of ice (+32° F.) and the boiling point of water (+212° F.) there are 180 graduations or degrees. From 32° F. down to 0° F. there are 32 graduation or degrees. All of that part of the scale above 0° F. is generally termed plus (+) and that part of the scale below 0° F. is termed minus (-). When no identifying mark (plus or minus) is used before a given temperature marking, the temperature is assumed to be plus, or above 0° F.

The Fahrenheit scale was invented by Gabriel Fahrenheit and bears his name.

CENTIGRADE SCALE

The Centigrade scale, which is used in most countries other than

America and England, was invented by Anders Celsius, an astronomer of Sweden, and is sometimes called the Celsius thermometer scale. It is more commonly and will hereinafter be called "Centigrade."

On the Centigrade thermometer scale the melting point of ice has been set at 0° (zero); while the boiling point of water is indicated as 100°.

This results in 100 graduations or degrees between these two temperature points.

Thus 0° (zero) on a Centigrade thermometer corresponds to 32° on the Fahrenheit thermometer (see Fig. 9, and 100° (boiling point of water) on the Centigrade scale compares with 212° on the Fahrenheit thermometer.

CONVERSION FORMULA

It is sometimes necessary to convert temperature reading from Fahrenheit to Centigrade and vice versa.

The following simple formula should be used to make a ready conversion:

Degrees Fahrenheit minus 32, divided by 1.8 equals degrees Centigrade.

Degrees Centigrade, multiplied by 1.8, plus 32 equals degrees Fahrenheit.

Examples:

1. 77° F., minus 32, divided by 1.8 equals 25° C.
2. 25° C. multiplied by 1.8 plus 32 equals 77° F.

For further convenience, temperature conversion tables, from Centigrade to Fahrenheit, and vice versa are given in Table 2.

(To Be Continued)

Comparison of Fahrenheit and Centigrade Thermometers

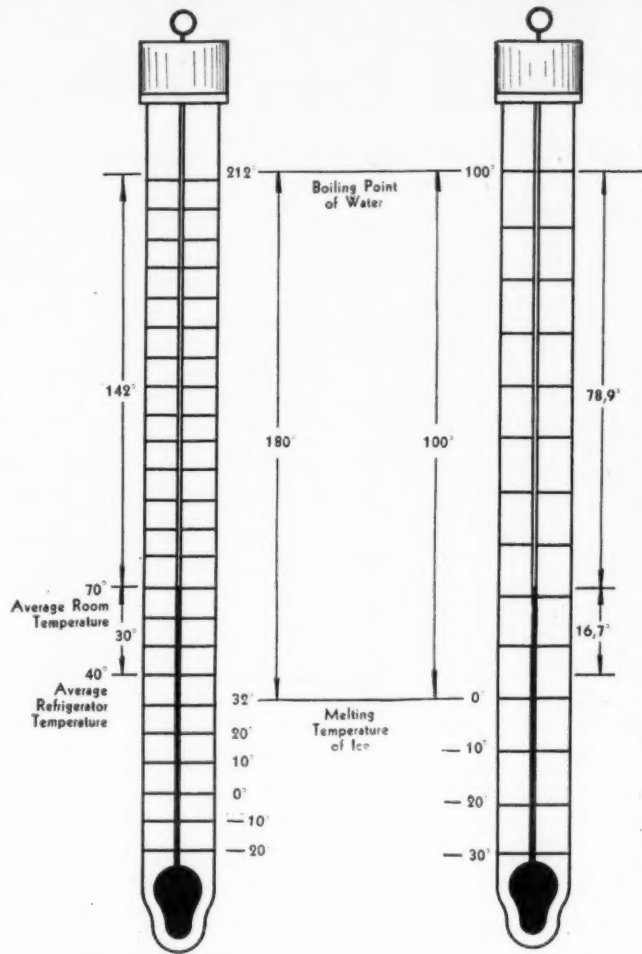


Fig. 9—Commonly used temperatures on the Fahrenheit and Centigrade thermometers. Conversion formulas are as follows:

Degrees Fahrenheit minus 32 divided by 1.8 equals degrees Centigrade.
Degrees Centigrade multiplied by 1.8 plus 32 equals degrees Fahrenheit.

Table 2—Conversion of Fahrenheit and Centigrade Temperatures

Centigrade to Fahrenheit			Fahrenheit to Centigrade		
C.	F.	C.	F.	C.	F.
-40	-40.0	+35	+95.0	-40	+7.2
-35	-31.0	+36	+96.8	-35	+7.8
-30	-22.0	+37	+98.6	-30	+8.3
-25	-13.0	+38	+100.4	-25	+8.9
-20	-4.0	+39	+102.2	-20	+9.4
-15	5.0	+40	+104.0	-15	+10.0
-10	16.0	+41	+105.8	-10	+10.6
-5	27.0	+42	+107.6	-5	+11.1
0	32.0	+43	+109.4	0	+11.7
+5	41.0	+44	+111.2	+5	+12.2
+10	50.0	+45	+113.0	+10	+12.8
+15	59.0	+46	+114.8	+15	+13.3
+20	68.0	+47	+116.6	+20	+13.9
+25	77.0	+48	+118.4	+25	+14.4
+30	86.0	+49	+120.2	+30	+15.0
+35	95.0	+50	+122.0	+35	+15.6
+40	104.0	+51	+123.8	+40	+16.1
+45	113.0	+52	+125.6	+45	+16.7
+50	122.0	+53	+127.4	+50	+17.2
+55	131.0	+54	+129.2	+55	+17.8
+60	140.0	+55	+131.0	+60	+18.3
+65	149.0	+56	+132.8	+65	+18.9
+70	158.0	+57	+134.6	+70	+19.4
+75	167.0	+58	+136.4	+75	+20.0
+80	176.0	+59	+138.2	+80	+20.6
+85	185.0	+60	+140.0	+85	+21.1
+90	194.0	+61	+141.8	+90	+21.7
+95	203.0	+62	+143.6	+95	+22.2
+100	212.0	+63	+145.4	+100	+22.8
		+64	+147.2	+105	+23.3
		+65	+149.0	+110	+23.9
		+66	+150.8	+115	+24.4
		+67	+152.6	+120	+25.0
		+68	+154.4	+125	+25.6
		+69	+156.2	+130	+26.1
		+70	+158.0	+135	+26.7
		+71	+159.8	+140	+27.2
		+72	+161.6	+145	+27.8
		+73	+163.4	+150	+28.3
		+74	+165.2	+155	+28.9
		+75	+167.0	+160	+29.4
		+76	+168.8	+165	+30.0
		+77	+170.6	+170	+30.6
		+78	+172.4	+175	+31.1
		+79	+174.2	+180	+31.7
		+80	+176.0	+185	+32.2
		+81	+177.8	+190	+32.8
		+82	+179.6	+195	+33.3
		+83	+181.4	+200	+33.9
		+84	+183.2	+205	+34.4
		+85	+185.0	+210	+35.0
		+86	+186.8	+215	+35.6
		+87	+188.6	+220	+36.1
		+88	+190.4	+225	+36.7
		+89	+192.2	+230	+37.2
		+90	+194.0	+235	+37.8
		+91	+195.8	+240	+38.3
		+92	+197.6	+245	+38.9
		+93	+199.4	+250	+39.4
		+94	+201.2	+255	+40.0
		+95	+203.0	+260	+40.6
		+96	+204.8	+265	+41.1
		+97	+206.6	+270	+41.7
		+98	+208.4	+275	+42.2
		+99	+210.2	+280	+42.8
		+100	+212.0	+285	+43.3
				+290	+43.9
				+295	+44.4
				+300	+45.0
				+305	+45.6
				+310	+46.1
				+315	+46.7
				+320	+47.2
				+325	+47.8
				+330	+48.3
				+335	+48.9
				+340	+49.4
				+345	+50.0
				+350	+50.6
				+355	+51.1
				+360	+51.7
				+365	+52.2
				+370	+52.8
				+375	+53.3
				+380	+53.9
				+385	+54.4
				+390	+55.0
				+395	+55.6
				+400	+56.1
				+405	+56.7
				+410	+57.2
				+415	+57.8
				+420	+58.3
				+425	+58.9
				+430	+59.4
				+435	+60.0
				+440	+60.6
				+445	+61.1
				+450	+61.7

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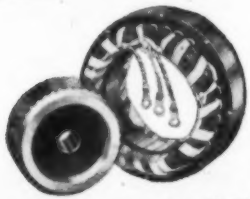
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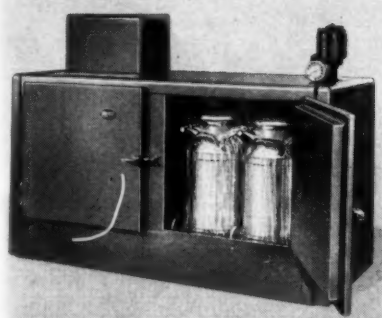
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'Dari-Kool' Milk Units Marked by 3 Features



KEY NO. P-1211

MADISON, Wis.—Dairy Equipment Co. here has introduced new "Dari-Kool" milk coolers featuring automatically-timed ice water circulation, sectional design, and "low-lift" construction.

Three basic Dari-Kool sections of four, six, and eight-can capacities can be combined to create any size cooler desired, according to the company.

"When more room is needed," it was explained, "the end panel is removed from the first unit, the two units are attached, and the end panel is installed on the new unit. With this arrangement the purchase of new end panels is unnecessary, and existing coolers need never be traded in when larger capacity equipment is desired."

Because of the coolers' open-front design, cans need be lifted only 11 in. from floor level. Operation of the coolers was described as follows:

"Warm, fresh milk is placed in one section and is immediately cooled by the ice cold 'Glacial Waterfall' unit. Shortly after, the circulator automatically stops and the cans become completely dry."

"The ice bank in the bottom of the unit maintains the cool temperature of the milk. No forced circulation is required to cool other sections, each one being cooled by its own Glacial Waterfall unit."

Bacteria count is said to be kept low, since cold water, fresh from the ice bank, streams down the sides of the cans, first cooling the top four inches—the bacteria zone.

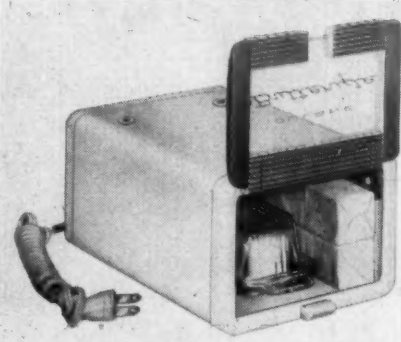
The tank at the bottom of the

cooler can be removed easily, the company said. A shroud protects the compressor from dust and water and, it is claimed, "increases cooling efficiency."

Fiberglass insulation, a large capacity pump, strong supports, a heavy-duty refrigeration coil, tight-sealing doors, and an exterior of corrosion-resistant zinc-coated alloy steel were listed as other Dari-Kool features.

The four-can-capacity cooler is 42½ in. long, the six-can cooler is 57½ in. long, and the eight-can cooler 79 in. long. All are 34¼ in. wide and 43 in. high.

Butter Conditioner Fits Any Refrigerator Shelf



KEY NO. P-1212

RIVER GROVE, Ill.—"Butterite," a refrigerator accessory for keeping butter at correct temperatures for easier spreading, is a new product of Dulane, Inc., here.

It is designed to hold a one-pound brick of butter in a dish or a quarter-pound dish plus two additional quarter-pound sections. The device has a thermostatically-controlled element that may be set for any desired consistency, the company further said.

Finished in white baked-on enamel to match the refrigerator, Butterite is said to be fully insulated so as not to affect the temperature in the refrigerator.

The unit may be placed on any shelf or suspended from any shelf grid by means of two-way clamps, according to the manufacturer.

The product carries a retail price of \$9.95.

Pyramid Accessories Aid Amprobe Meter Readings



ABOVE: Amprobe 10x Sensitizer.

BELOW: 10x Sensitizer in use.



KEY NO. P-1213

NEW YORK CITY—Two new, time-saving accessories that can be used with the Amprobe snap-on volt-ammeter have just been developed by the Pyramid Instrument Corp. here.

The first is the Amprobe 10x Sensitizer, which makes possible easier low-current readings. When plugged in between the equipment being checked and the outlet, the Amprobe Sensitizer multiplies the sensitivity of the Amprobe by ten times. For example, a motor drawing 0.7 amps will then show 7 amps on the instrument scale.

This accessory effectively adds three low-current ranges to the Amprobe. For instance, the 10 amp range becomes 0-1 amps, the 25 amps become 0-2.5 amps, and the 50 amps become 0-5 amps.

It is particularly valuable when checking small electrical equipment with a snap-on volt-ammeter, especially motors of ¼-hp. and under.

The Amprobe 10x Sensitizer has 10 precision windings in one arm, and is made of molded Bakelite. Capacity is 10 amps for intermittent use, and 2.5 amps for continuous use. Net price is \$3.75.

The Amprobe Split Plug is an accessory of similar construction and appearance, except that it does not have windings to increase the sensitivity. This unit facilitates snap-on current readings of equipment having sealed double-conductor electric cord.

When plugged in between the equipment being checked and the outlet, it separates the conductors instantly without touching the wire. Capacity is 30 amps for intermittent use, and 15 amps for continuous use. Net price is \$1.95.

Bullet Offers Combined Strainer and Dehydrator

KEY NO. P-1214

NEW YORK CITY—A new series of sealed unit strainer and dehydrator combinations designed to eliminate capillary problems in hermetic rebuilding of domestic refrigeration units, have been introduced by Bullet Products Co. here, and will be distributed through Sealed Unit Parts Co.

The first of these, a combination dehydrator and capillary tube, is made of seamless tubing filled with 10 grams of silica gel. It is silver soldered to the capillary tube and has a choice of flare or sweat inlet.

The capillary tube in the combination, according to the manufacturers, is precision drawn to close tolerances and is reamed at both ends to prevent any burrs from interference with restrictor action.

The other combination in the new Bullet series offers a strainer silver soldered to the capillary tubing. It is also available with either sweat or flared inlets.

The new products, developed after 10 years of practical experimentation with one of the country's largest hermetic rebuilders, offer exact lengths and inside diameters of capillary

tubes and are guaranteed to fit standard domestic units.

Sold in custom-engineered sizes to fit standard installations, the products save time and expense for the rebuilder because there is nothing to cut off or add. Each size, the company notes, has been tested on a variety of at least 1,000 domestic units.

The originators suggest that Bullet strainer and dehydrator combinations be installed in either of two ways:

a. Connected to the tube coming out of the condenser, with the capillary pulled all the way up to the evaporator.

b. Installed in a position adjacent to the evaporator. In this instance, it is suggested that provision be made for a liquid line to be installed from the condenser to the complete strainer or dehydrator unit.

Another unique application of these new combinations is in the conversion of SO₂ units to "Freon-12." Special sizes are available in Bullet combinations to effect these conversions without the usual capillary difficulties.

Sprayon Paint Can Found Helpful for Touching Up

KEY NO. P-1215

CLEVELAND—A new, low-cost tool for the refinishing of damaged painted surfaces on appliances has been introduced by Sprayon Products, Inc., here.

Sprayon's refinishing tool is a palm-size self-spraying gun. All in one unit, the gun requires no extras, no compressors, and no hoses. It can use the same production lacquer or enamels as the manufacturer uses in his original finishing process.

The content of the gun is pressurized at the factory so that a uniform spray pattern results when the paint is released. In addition, the hermetically sealed tool insures color balance with no loss of solvent.

At present, Sprayon is offering the tool to appliance manufacturers for use by their distributors and dealers.

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In requesting additional information on "What's New" and "Current Literature Available" items, please use Key Nos. shown on these items.

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AIR CONDITIONING & REFRIGERATION NEWS

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450 W. Fort St., Detroit 26, Mich.

Refrigeration Problems And Their Solution

By Paul Reed

For Service and Installation Engineers

Air and Humidity (II)

WET BULB THERMOMETER AS A TOOL

The wet bulb thermometer is our most practical and most easily used instrument for determining the properties of air and water vapor mixtures. If we know the dry bulb and wet bulb temperatures, we can determine any and all of the other properties: volume, moisture content, vapor pressure, relative humidity, dewpoint, and heat content.

However, care must be used in using a wet bulb thermometer, for a small error in reading the wet bulb thermometer can result in great errors in dewpoint determination and the properties that are functions of the dewpoint temperature.

Care also is essential that the dry bulb and wet bulb thermometers are matched thermometers, and both read the same with their bulbs dry. A variation of either of even 1° can badly upset the accuracy of the calculations.

So the wet bulb thermometer is not only useful as an index of total heat content of the air and water vapor mixtures, it—along with the dry bulb thermometer—is also our most simple and convenient instrument in determining all of the properties of air and water vapor mixtures.

USING PSYCHROMETRIC CHART FROM DRY AND WET BULB READINGS

For example, our psychrometer reads 80° dry bulb and 65° wet bulb.



Packaged Air Conditioning Units
2 to 15 Tons
Condensing Units
1/4 hp. to 40 hp.

Curtis Refrigerating Machine Division
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1912 Kienlen Ave. St. Louis 20, Mo.
Established 1854

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Minimum of six years experience in compressor design field and the personal qualifications necessary to organize and carry out a development program from general assignment to successful commercial application.

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AIR CONDITIONING & REFRIGERATION NEWS

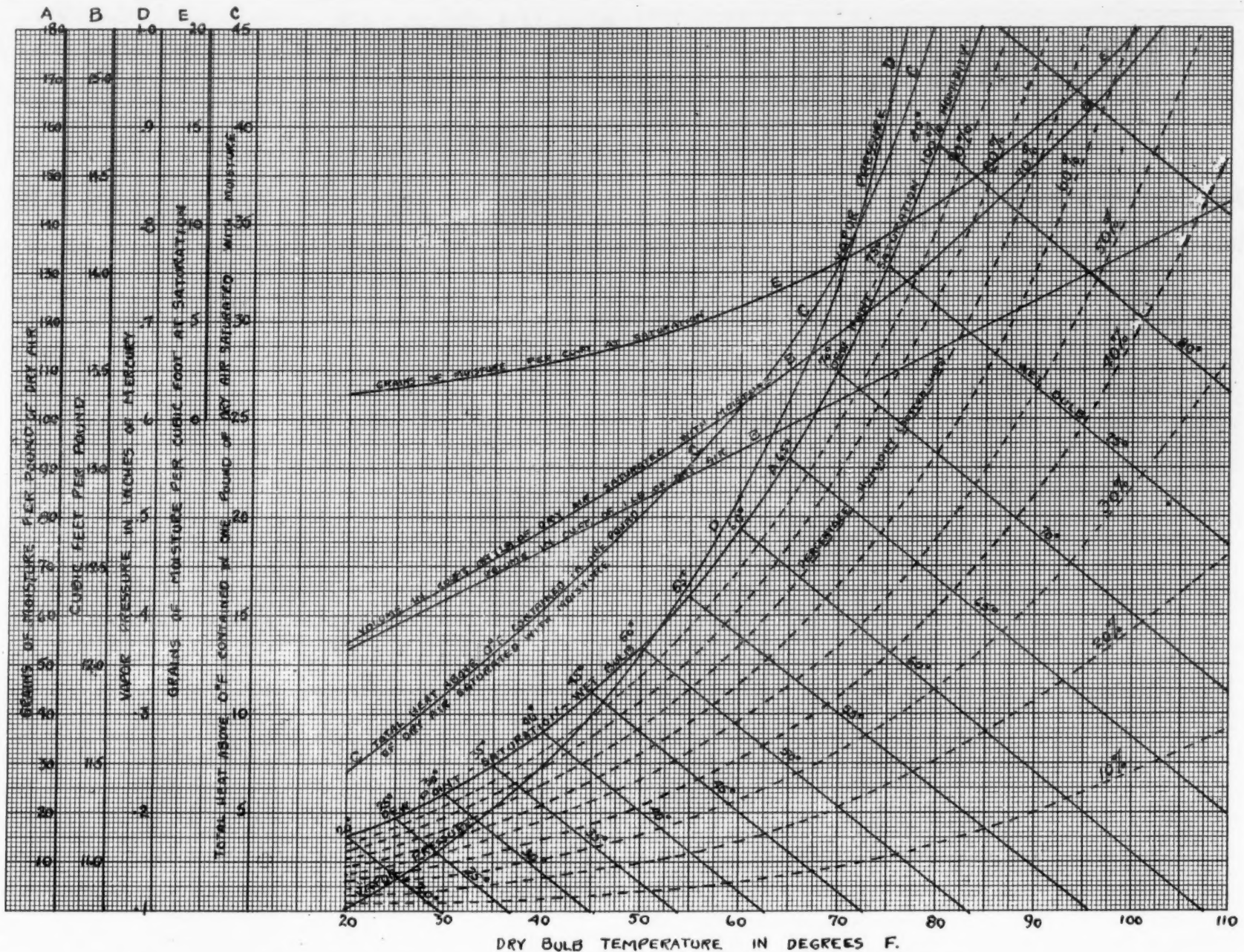


Fig. 3—Temperature-pressure chart with both dry bulb and wet bulb temperatures.

Tracing upward on the vertical 80° dry bulb line on the psychrometric chart until it crosses the diagonal 65° wet bulb line, we find that it falls about halfway between the 40% and 50% Percentage Humidity lines so we can estimate it at 45%. (The Relative Humidity is practically the same in this case.)

We find that the point where the 80° dry bulb line crosses the 65° wet bulb line falls on the horizontal line which followed to the left crosses the saturation-dewpoint line at 56°, so 56° is the dewpoint temperature.

Following the horizontal line on to the scale "Grains of moisture per lb. of dry air" we find that at 80° dry bulb, 65° wet bulb, and 56° dewpoint, one pound of dry air saturated with moisture holds between 67 and 68 grains of water.

Following upward on the vertical 56° dewpoint line, we find that it first crosses the vapor pressure curve at .45 in. of mercury, as read on scale D.

The vertical 56° dewpoint next crosses the "Volume in cubic feet of dry air" curve, but since this curve refers to dry air, with no moisture in it, the dewpoint temperature does not relate to this.

The next curve the vertical 56° dewpoint line crosses is the "Total heat above zero degrees contained in one pound of dry air saturated with moisture" curve. This is not a function of the dewpoint, but of the wet bulb temperature.

The next curve the vertical 56° dewpoint crosses, is the "Volume of cubic feet of one pound of dry air saturated with moisture" and since it refers to the volume of moisture, the dewpoint relates to it. We find that the vertical 56° dewpoint line crosses the curve at 13.2 cu. ft. per pound as read on scale B.

The next curve the vertical 65° dewpoint line crosses is the "Grains of moisture per cubic foot of saturated air" curve. It crosses it at 5 grains, as read on scale E.

Now, if we go back to our 80° dry bulb, 65° wet bulb point, and follow upward on the vertical 80° dry bulb line, we find it crosses the "Volume in cubic feet of one pound of dry air" curve at 13.5 cu. ft. as read on scale B.

If we follow upward from the vertical 65° wet bulb line from Curve A, we find that it crosses the "Total Heat above zero degrees contained in one pound of dry air saturated with moisture" curve at 29.5 B.t.u. per pound read on scale C.

In the past few instalments we have attempted to explain the basic principles of mixtures of dry air and water vapor which we call "air" or sometimes atmospheric air. In most applications of refrigeration of foods and many other commodities, the moisture in the air is highly important in maintaining the appearance, weight, and quality of the refrigerated product.

Therefore, every refrigeration service engineer should become familiar with these principles in order that he may not only maintain the proper temperature but also the best humidity conditions. Moreover, a knowledge of these principles is necessary to a proper understanding of the need and methods of installing and sealing insulation against the entrance of the water vapor in the air.

Chatham Electric Moves

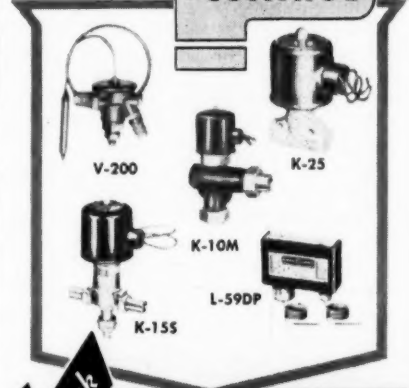
SAVANNAH, Ga.—Chatham Electric Co., handling a large line of electrical appliances, including General Electric, Westinghouse, and Universal brands, has occupied spacious new quarters on Waters and Maupas Aves.

The company, owner by Lawrence Rabey, Jr., has expanded greatly since its beginning six years ago. Burman L. Ray supervises appliance sales.

Connor's N. Y. Address Listed

NEW YORK CITY — The New York offices of W. B. Connor Engineering Corp., Danbury, Conn., are now at 500 Fifth Ave., New York 18, N. Y., the firm announced.

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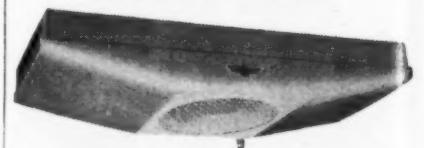


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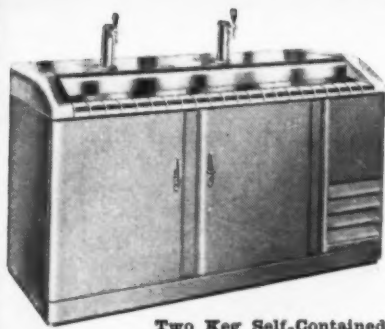
For the latest Larkin price list, see your wholesaler. If you wish, write direct to us and we shall be glad to send you one.

Manufacturers of the original Cross-Fin Coil — Humi-Temp Units — Evaporative and Air Cooled Condensers — Air Conditioning Units and Coils — Direct Expansion Water Coolers — Steel Vacuum Plate Coils — Heat Exchangers.

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United's low cost complete, efficient beer system available in ALL STAINLESS STEEL exterior or BROWN DULUX cabinet with stainless steel top in two keg or three keg size—either remote or self-contained.

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DIRECT DRAW SYSTEMS • BOTTLE COOLERS



RSES ELECTION, held during the course of the recent West Coast Refrigeration and Air Conditioning Educational Exhibit in Long Beach, Calif., put these men in office for the coming year:

WHO'S WHO: (Bottom Row) M. R. Hanks, treasurer; C. W. Neisel, first vice president; Cecil R. Visger, president; J. D. Nall, second vice president; H. T. McDermott, secretary. Following men are directors: (Second Row) Einer Hanson, J. M. Lock, L. S. Levy, J. M. Turner, H. J. Dike, (Top Row) W. E. Tierney, John Mendell, Lawrence Hall, Floyd Lilley, and Paul B. Reed.



AT THE RECOLD exhibit Hal Jarvis, of Recold, adjusts one of the fans for an audience made up of Wyatt R. Brown, of San Francisco; Harry Quinn, Recold sales manager; Ed H. Heiser, of the Wyatt R. Brown Co., San Francisco; and Peter Askew, Thermal Products, Los Angeles.



AT PENN SWITCH's booth Bob Luscombe, sales manager for Penn, had a talk with John Sorensen, of Seattle, while Gene Ford, of the Penn Electric Switch Los Angeles branch, discussed a point with R. E. Stewart, of Pomona, Calif.



AT THE A-P CONTROLS Corp. display Del Moerick, of A-P, and Maurice Junod, of Ontario, Calif. (both at left), look over a working display of the firm's valves. A. F. Habener, of Anaheim, Calif. and Charles A. Lowe, of Victoria, B. C. are standing at right. Man with back to group (only half in picture) is Dick Morton, of Los Angeles.

Current Literature Available

To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

Bulletin Covers New Imperial Brass Items

—KEY NO. L-1211—

CHICAGO—A two-page bulletin No. 109-REF on products recently introduced by the Imperial Brass Mfg. Co. here has been issued.

The bulletin includes data on the Tapacan refrigerant dispensing valve, the "Diamond-Eye" liquid indicator, charging lines with Kwik-Kuplers, single gauge charging and testing unit, and packed refrigeration globe line shut-off valves.

G-E 'Fact Book' Is Product-Feature Guide

—KEY NO. L-1212—

BRIDGEPORT, Conn.—A 28-page fact book covering General Electric small appliances and displays has been published by the company.

The pocket-size booklet serves as a handy reference for new or experienced salespeople in getting a quick resume of major product and sales features. All of the small appliances,

including vacuum cleaners, are illustrated and described, and there is also a complete description of display tools available for these appliances.

The current edition of the fact book is the fourth published by the company.

Full Line Described In New Crosley Brochures

—KEY NO. L-1213—

CINCINNATI—Full color specifications sheets on the complete line of Crosley appliances and other products are now available to dealers, J. A. Schulte, manager of cooperative advertising for Crosley, announced recently. He advised dealers to order such literature through their Crosley distributors.

Milk Cooler Data Out

—KEY NO. L-1214—

HAGERSTOWN, Md.—A specifications sheet on the new Victor level load milk coolers has been published by the Victor Products Co. here.

Specs Issued on Dairy Cases, Bottle Coolers

—KEY NO. L-1215—

HOPKINS, Minn.—American Refrigeration Corp. here has recently issued specifications sheets covering its new 4 and 6-ft. open dairy display cases and new bottle coolers.

The dairy cases are equipped with mirror and picture superstructure. The bottle cooler comes in 11, 19, and 27-case capacities with a double blower arrangement to create rapid air circulation and cut cooling time.

Betz Catalog Provides Data on Cooling Units

—KEY NO. L-1216—

HAMMOND, Ind.—A condensed catalog covering Betz Filterpure cooling units has been recently published by Betz Corp. here. The four-page catalog illustrates and gives complete specifications on the firm's ceiling units, unit coolers, "Radaire" unit coolers, and ice cuber.

Electric Air Filters Outlined In Booklet

—KEY NO. L-1217—

McKEES ROCKS, Pa.—Trion, Inc. here has recently issued a new catalog describing in detail its electric air filters. The 8-page booklet explains the Trion principle of removing dirt from the air and describes the various parts of the system.

Engineering data is provided for built-up units, custom built packaged units, and standard packaged units.

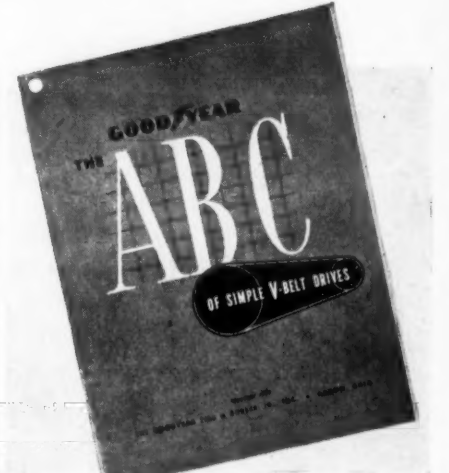
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climbing to new highs.

Service men go for the way the new Goodyear program makes their work simpler. They can measure belt length without even taking it off the machine, thanks to the Beltmeter. Then, there's the concise, clear Goodyear Replacement Catalog listing the belt needs of every commercial refrigeration unit.

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cramped from cover to cover with handy, easily-followed information on V-drives. There's a FREE copy waiting for you right now. Write Goodyear, Dept. 742-C, Akron 16, Ohio.

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GOODYEAR

THE GREATEST NAME IN RUBBER

Heat Pump--Applications, Theory

Heating Capacities, Piping Connections, and Seasonal Changeovers
Outlined by Acme Engineer at Detroit ASRE Section Meeting

"The heat source temperature has a major effect on the capacity of a given installation, and a somewhat smaller effect on capacity is caused by variations in methods of distributing the heat which often influence the temperature required in the hot water supply. A great deal of study has been made to improve the heat source efficiency, but there is a very real need for research in more efficient use of the low temperature heat produced by heat pumps.

"Table 2 shows the number of thousands of B.t.u./hr./hp. rating of capacity in the compressor of the units. It is usually sage to install a heat pump system in which the actual output of the unit equals the heat loss of the premises instead of allowing a large percentage for pick up, pipe load, and other unknowns. This is particularly true where heat pumps are installed in homes without chimneys or other extraneous openings.

PIPING CONNECTIONS

"As indicated before, there are many possible arrangements of piping for heat pump installation. Fig. 2 shows a typical piping ar-

angement for use with 'water-to-water' units when installed for heating purposes only, that is, on installations where summer cooling is not desired. An example of such installations might be for residences heated by radiant heating pipes buried in the floor, walls, or ceiling.

The pump of the unit may circulate water from the heating coil to the condenser instead of the chiller, as was shown in Fig. 1. This water piping change can easily be made by the installer on the standard unit, and provides the simplest arrangement where the heat source water is available under pressure. However,

where an additional pump must be installed on the job as in the case of air or ground coil heat sources, the internal water piping can be left undisturbed if the external head required in this circuit is within its pump capacity. A separate pump will be then required for the heating coil and condenser circuit.

"In Fig. 2, the adjusting valve No. 1 may be either manual or automatic and should be adjusted to allow the amounts of water flow through the chiller indicated in the preceding paragraphs on heat sources," Newton said.

"The control valve No. 2 should

PART 2

This is the concluding portion of an article on the heat pump in which the author, Alwin B. Newton, vice president, engineering, for Acme Industries, Inc., presents data on the theory and applications of the heat pump. In this discussion, which was originally presented before the Detroit Section of the American Society of Refrigerating Engineers, Newton also makes some predictions as to the future of the heat pump.

Table 2—Approximate Capacity of Flow-Cold Units
When Used as Heat Pumps

Hot water off Return temp. Heat source water	100° 85-90	105° 90-95	110° 95-100	115° 100-105	120° 105-110	125° 110-115
on	1,000's of B.t.u. per 1 Hour per 1 Hp.					
off						
70	17.8	17.2	16.8	16.4	16.0	15.4
60	16.6	16.2	15.6	15.2	14.8	14.2
50	15.1	14.6	14.1	13.6	13.2	12.6
39	14.0	13.5	13.0	12.5	12.1	11.5
Glycol solution -5° F.P.						
30	11.9	11.4	11.0	10.6	10.3	9.8
20	10.5	10.1	9.7	9.3	9.0	8.6

be of a solenoid type if a manual adjustment valve is used and should be wired to open whenever the compressor operates on the heating cycle, to assure an adequate heat source. Valves No. 1 and 2 will not be required in cases where a separate circulating pump for the heat source water or solution is employed, in which case the pump itself may be made to cycle on and off with the refrigeration compressor of the heating unit.

"Pressure operated water regulating valves similar to those employed for regulating condenser water, but arranged to close on pressure rise and with an adjustment of approximately 40 to 55 lbs. may be used in lieu of the combination of valves 1 and 2, whenever heat source water under constant pressure is available.

"The water or glycol solution flows

from the heat source through the chiller where it is cooled as the refrigerant removes heat from it, the cooled used water returning to the ground or being used in some other way. The heat is transferred to the condenser and thus to the circulated water from the pump, the water then passing through a motor jacket to pick up the motor heat and thence to the heating coils.

MANUAL SEASON CHANGEOVER WITH SEPARATE CIRCUITS THROUGH CHILLER AND CONDENSER

"On most heat pump installations, the unit will be used to provide summer air conditioning as well as heating in the winter. This gives complete all-year summer and winter air conditioning and during the fall and spring months changing weather conditions make it desirable to shift the system from heating to cooling and back again a considerable number of times.

"On most systems it is best to use an independent recirculating water circuit through the heating or cooling coil for both summer and winter operations. The changeover can be made by a manual valve manifold arrangement as shown schematically in Fig. 3. The valves all handle either the water chilled or heated by the unit, or the source water, and the figure is so arranged that water under pressure from the source is assumed to be available at all times.

"The manual valves shown in outline are opened during the cooling season and are closed during the heating season whereas the valves shown filled in are opened during the heating season and should be closed during the cooling season. Valves 1 and 2 perform the same function as in Fig. 2 and valve 3 serves to control the condenser water during the cooling season. If well water or lake water is used as a heat source the available water pressure is usually lower than on a city water system and valve 3 should then be one or two sizes larger than would normally be furnished.

"The heating circuit of this system is the same as described under Fig. 2. In the cooling circuit, recirculated water from the cooling coils is moved through the chiller by the pump and back to the coils. The heat removed in the chiller is transferred to the condenser where it is transferred to the supply water or glycol which then cools the compressor motor and is discharged or recirculated through a ground coil.

MANUAL SEASON CHANGEOVER WITH COMMON CIRCUITS THROUGH THE CHILLER AND CONDENSER

"If the water from the heat source runs between 52° and 60° during the summertime, the changeover valve manifold can be simplified by using a series circuit between the chiller and the condenser during the cooling season.

"During the cooling season the water from the heat source flows first through the cooler where it is chilled 6° to 12° below its entering temperature. It then passes through the coil in the conditioner, through the circulating pump of the unit, through the condenser and compressor jacket and then through the valve manifold to the drain.

"During the heating cycle the heat source water flows through the chiller and directly to drain or a return well. The heating circuit is entirely separate and includes the circulating pump of the unit, the condenser and compressor jackets, and the heating coils in convectors or ducts. The circulating pump of the unit must be operated during the heating cycle but usually need not be operated during the cooling cycle since the entire water circuit can normally be supplied from the water source which is under pressure.

"Valves 1 and 2 perform the same functions as the corresponding valves in Figs. 2 and 3. However, with this system the flow of water through (Concluded on next page)



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it Needs the Romance, the Glamour, the Power of
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AIR CONDITIONING & REFRIGERATION NEWS has an audience of the industry's leading engineers, management, and the top producing dealers and contractors. It brings your story on packaged units, central systems, blowers, diffusers, motors, filters . . . everything used in the manufacture and installation and service of air conditioning equipment to the manufacturers, jobbers, contractors, and dealers who can and do produce the bulk of the industry's volume.

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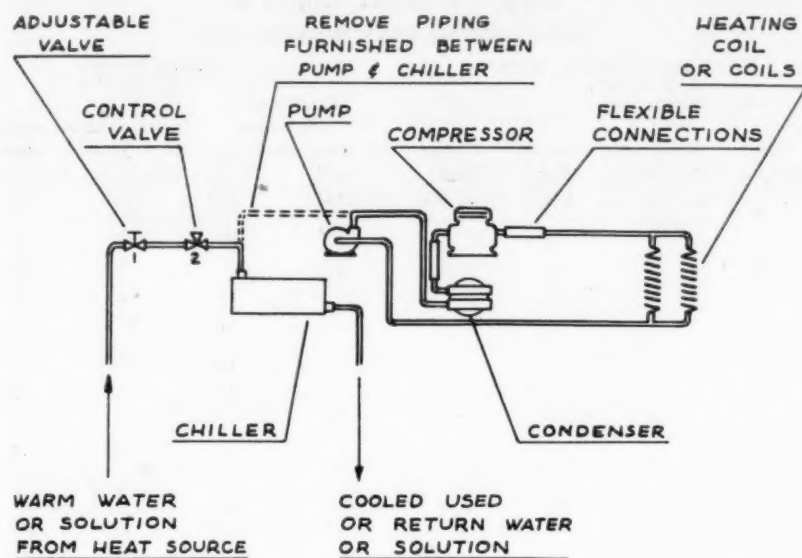


Fig. 2—Flow-Cold piping for heating setup when employing the heat pump cycle.

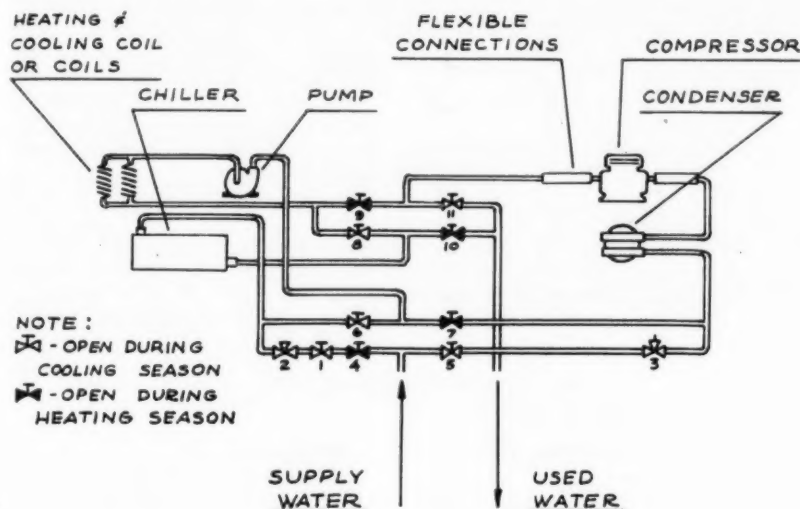


Fig. 3—Flow-Cold piping for heating and cooling with manual season changeover.

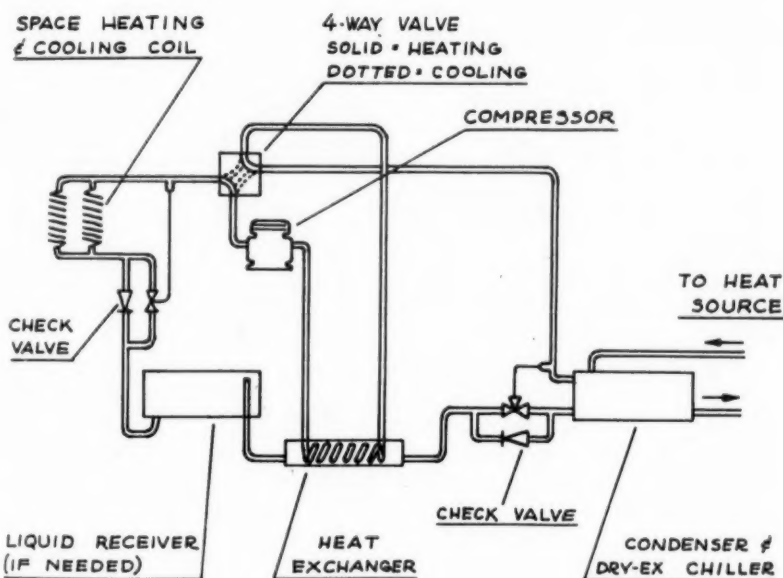


Fig. 4—Refrigerant piping for direct expansion heat pump circuit. Four-way valve is shown by dotted lines.

More Unitary Equipment Will Increase Use of Heat Pump, Newton Predicts

(Concluded from preceding page)

the chiller must usually be restricted in both the heating and cooling season. To accomplish this, a different type of valve may be employed to substitute for 1 and 2. This valve is a temperature-actuated valve the bulb of which may be strapped to the water pipe carrying the chilled water from the chiller. The valve is set to restrict the water flow whenever the water at this point falls to approximately 46° or 48°.

"There is the possibility in the cooling cycle with series flow through the chiller, coil, and condenser that the condensing pressure itself will become too low for the system to operate properly. Therefore, the installation of a pressure operated bleed valve is suggested. It will by-pass some of the cool water to the drain whenever the discharge pressure falls to an abnormally low value such as 110 or 120 lbs.

AUTOMATIC CHANGEOVER

"Solenoid or other types of automatic valves may be substituted for the hand valves, Nos. 4 through 11 of Fig. 3 where fully automatic changeover from heating to cooling is desired. Furthermore, any pair of valves such as 4 and 5, 6 and 7, 8 and 9, or 10 and 11 may be replaced by a 3-way valve of the solenoid or motorized type or a 4-way valve may replace the four valves shown.

"Three-way valves are used in such a way that all valves can be ener-

gized at the same time either on the heating or cooling cycle.

DIRECT-EXPANSION SYSTEM CHANGEOVER

"All of the foregoing systems show water to water units and illustrate their great degree of versatility. Such units can be stocked by jobbers and distributors, and since their refrigeration circuits are left intact, and their water circuits can be adapted for any type of heat source or method of heat delivery, a single type of unit fits practically any job," Newton emphasized.

"However, no discussion of heat pump circuits is complete without reference to direct condensation or expansion of refrigerant in the space heating and cooling coils. Fig. 4 shows refrigerant piping for such a system. A combination direct expansion chiller and condenser is used through which the heat source water flows. The water flows back and forth across the tubes, and is either heated or cooled depending on whether the refrigerant is condensing or evaporating inside the tubes.

"With the four-way valve of Fig. 4 as shown (dotted), heat is removed at the coils and discharged at the condenser-cooler. In the solid line position, heat is discharged in the space heating coils and the source water is chilled at the condenser-cooler. A liquid receiver is sometimes needed in these systems when one evaporator requires a greater re-

frigerant charge than the other.

THE FUTURE OF THE HEAT PUMP

"The present great interest in the heat pump coupled with the wide variety of interest among the people who are interested in seeing it more widely used will certainly mean that manufacturers will develop more and more unitary equipment. As they do, field installations become easier and their cost more predictable," Newton said.

"Furthermore, with proper study to make these units just as versatile as possible so that local requirements can be easily met, any geographical barriers previously thought to exist becomes less significant. We now have installations of the water-to-water unitary equipment all the way from Minneapolis using lakes as the heat source down through the central part of the country where underground water is available as the heat source on down to the southern regions where well water and ground coils prevail and all these installations are proving immensely satisfactory. In coastal regions, special materials such as cupro-nickel tubes permit the use of salt or brackish water for heat source purposes.

"The present cost of these installations already compares favorably with other methods of heating combined with summer cooling and on new houses where plans are made ahead of time to heat with a heat pump and thereby chimneys and other extraneous openings may be eliminated, the cost is even more favorable and should be reduced even further as methods of installation and operation are further standardized."

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Type, name of air conditioning equipment used.
What job equipment is intended to do.
In what way is application unusual?
What were installation problems, if any?
How was sale made?
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AIR CONDITIONING & REFRIGERATION NEWS,
450 W. Fort St.,
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All entries must be in by
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12-4-50

Servicing the New Philco Room Air Conditioners

PART 8 How To Analyze Results Of Tests on Conditioners

ABNORMAL TEST RESULTS—ALL MODELS

If the evaporator cooling is greater than the maximum value shown in the Cooling Range table for the model under test, check for the following troubles:

1. Clogged or very dirty air filter.
2. Fan motor running too slowly.
3. Frost or ice on evaporator.

If the evaporator cooling is less than the minimum value shown in the Cooling Range table for the model under test, trouble may be due to one of the following causes:

1. Abnormal outside air temperature or humidity.
2. Low line voltage.
3. Excessively dirty condenser.
4. Internal trouble within the Super Power system.

If, after making a performance test, it is found that the temperature split does not fall within the minimum and maximum limits listed in the performance table, it will be necessary to make a wattage check.

WATTAGE CHECK—AIR-COOLED MODELS

THE FOLLOWING TEST READINGS SHOULD BE TAKEN AS NEAR THE SAME TIME AS POSSIBLE:

1. Read the condenser air inlet dry-bulb temperature.
2. Insert the power cord plug from the air conditioner into the receptacle of the refrigeration tester. Plug the power cord from the tester into the nearest wall receptacle.
3. Read the total power consumption, in watts, of the air conditioner.
4. Referring to the left-hand column of Table 4, select a condenser air inlet dry-bulb value nearest to the test temperature obtained in step 1 above.
5. Read to the right from this value, to determine a maximum and minimum wattage for the model under test.

Normal operation is indicated if the test results are within the wattages listed.

Example: Assume that model 75-F is under test, and that the dry-bulb temperature of the air entering the condenser is 100°. Refer to Table 4.

1. In the column headed "condenser air inlet D.B.," find the 100° value.
2. Read to the right from this 100° value, and find, under model 75-F, the maximum and minimum wattage of 1,250—1,450.

If the wattage reading obtained in the test is within this range, the power consumption may be considered to be normal.

WATTAGE CHECK—WATER-COOLED MODELS

The amount of power consumed by water-cooled models is related to the temperature of the water leaving the condenser. (Both units must be running.)

1. In order to measure the power consumption of the water-cooled units, it is first necessary to determine condenser water outlet temperature. When the water outlet temperature has been determined, refer to the performance test table, and find this temperature for the model under test.

2. Remove the rear cover plate to which is attached the conduit carrying the air conditioner power.

3. Disconnect the power supply at the main supply switch and remove the two solderless connectors which connect the power supply to the brown and black leads going to thermostat terminals L1 and L2.

4. Add to the brown and black leads, a small extension cord with a male plug.

5. Add to the power leads of the conduit, a female receptacle.

6. With these improvised connections, the air conditioner power leads can be plugged into the wattmeter receptacle of the refrigeration tester.

(Continued on next page)

Table 7—Model 150-FCW

105° F. CONDENSER WATER OUT

Condenser Cooling Water				Cooling Range		
Inlet Water (°F.)	Minimum Water Pressure Required Lb./Sq. In.	Outlet Water (°F.)	Water Rate Gal./Hr.	Evaporator Air Inlet Temperatures D.B. (°F.)	W.B. (°F.)	Temperature Split (Air In—Air Out) Min. D.B. Max. D.B. (°F.)
65	10	105	67	95	79 75 71 67	13 15 16 17 18 19 20
70	10	105	77	90	79 75 71 67	10.5 13 14 16 17 19
75	10	105	90	85	79 75 71 67	6.5 10.5 13 15 18
80	10	105	108	80	75 71 67 63	6.5 10.5 13 15 18
85	10	105	135	75	71 67 63 59	5.5 9.5 12 14 17
90	15	105	180	70	67 63 59	5 8.5 11.5 14.5
95	30	105	270			

POWER CONSUMPTION (For any inlet water temperature and 105° water out): Fan power, 200 watts. Total power (fan and two units): Minimum, 1,950 watts; Maximum, 2,200 watts.

Table 8—Model 200-FCW

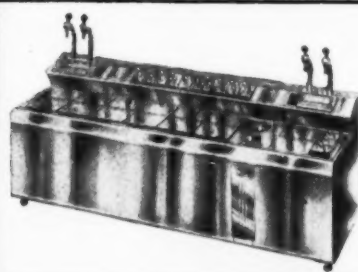
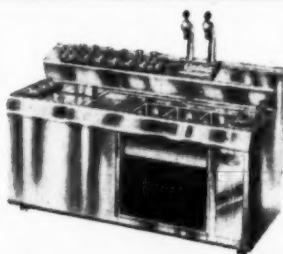
85° F. CONDENSER WATER OUT

Condenser Cooling Water				Cooling Range		
Inlet Water (°F.)	Minimum Water Pressure Required Lb./Sq. In.	Outlet Water (°F.)	Water Rate Gal./Hr.	Evaporator Air Inlet Temperatures D.B. (°F.)	W.B. (°F.)	Temperature Split (Air In—Air Out) Min. D.B. Max. D.B. (°F.)
55	10	85	138	95	79 75 71 67	17.5 19.5 22 24 25 27
60	15	85	165	90	79 75 71 67	14 17.5 19.5 22 25
65	20	85	206	85	79 75 71 67	10 13 16.5 18.5 21.5
70	30	85	275	80	75 71 67 63	10 13 16.5 18.5 21.5
75	60	85	412	75	71 67 63 59	9 12 15.5 17.5 20.5
				70	67 63 59	6.5 11 14 17

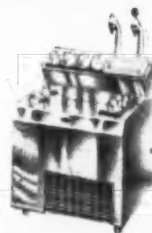
POWER CONSUMPTION (For any inlet water temperature and 85° water out): Fan power, 275 watts. Total power (fan and two units): Minimum, 2,300 watts; Maximum, 2,550 watts.

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Table 9—Model 200-FCW

95° F. CONDENSER WATER OUT

Condenser Cooling Water				Cooling Range			
Inlet Water (°F.)	Minimum Pressure Required Lb./Sq. In.	Outlet Water (°F.)	Water Rate Gal./Hr.	Evaporator Air Inlet Temperatures D.B. (°F.)	W.B. (°F.)	Temperature Split (Air In—Air Out) Min. D.B. (°F.)	Max. D.B. (°F.)
60	10	95	110	95	79	16	19
					75	18	21
					71	20	23
					67	22	25
65	10	95	129	90	79	13	16
					75	16	19
					71	18	21
					67	20	23
70	10	95	154	85	79	9	12
					75	12	15
					71	15	18
					67	17	20
75	15	95	190	80	75	9	12
					71	12	15
					67	15	18
					63	17	20
80	25	95	257	75	71	8	11
					67	11	14
					63	14	17
					59	16	19
85	55	95	385	70	67	6	9
					63	10	13
					59	13	16

POWER CONSUMPTION (For any inlet water temperature and 95° water out): Fan power, 275 watts. Total power (fan and two units): Minimum, 2,500 watts; Maximum, 2,750 watts.

Table 10—Model 200-FCW

105° F. CONDENSER WATER OUT

Condenser Cooling Water				Cooling Range			
Inlet Water (°F.)	Minimum Pressure Required Lb./Sq. In.	Outlet Water (°F.)	Water Rate Gal./Hr.	Evaporator Air Inlet Temperatures D.B. (°F.)	W.B. (°F.)	Temperature Split (Air In—Air Out) Min. D.B. (°F.)	Max. D.B. (°F.)
65	10	105	89	95	79	14.5	17.5
					75	16.5	19.5
					71	18	21
					67	20	23
70	10	105	101	90	79	12	15
					75	14.5	17.5
					71	16.5	19.5
					67	18	21
75	10	105	118	85	79	8	11
					75	11	14
					71	13.5	16.5
					67	15.5	18.5
80	10	105	142	80	75	8	11
					71	11	14
					67	13.5	16.5
					63	15.5	18.5
85	15	105	178	75	71	7	10
					67	10	13
					63	12.5	15.5
					59	14.5	17.5
90	25	105	236	70	67	5.5	8.5
					63	9	12
					59	12	15

POWER CONSUMPTION (For any inlet water temperature and 105° water out): Fan power, 275 watts. Total power (fan and two units): Minimum, 2,700 watts; Maximum, 2,950 watts.

THE MASTER SERVICE MANUALS — — —

— — — and other books of the Refrigeration Library are depended upon as textbooks in trade schools from coast to coast. BUSINESS NEWS PUBLISHING CO., DETROIT

sign of satisfaction

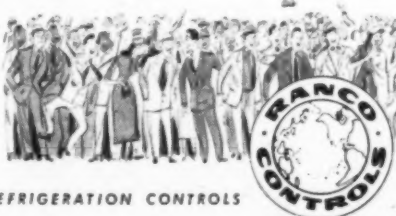
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Philco Service--

(Continued from preceding page)

The refrigeration tester power cord can be plugged into the female receptacle attached to the permanent wiring.

7. Turn the power switch to the "Cool" position, and take a wattage reading.

Assuming that the air conditioner under test is a model 200-FCW, and that the condenser water outlet temperature, arrived at in step 1, was found to be 95°, the correct power consumption will be found in the power consumption column of Table 9. If the wattage test taken in step 7 is within the minimum and maximum limits of 2,500—2,750 watts, it can be assumed that the air conditioner is functioning normally.

ANALYSIS OF TEST RESULTS

If the results of the temperature and wattage readings indicate that the air conditioner is operating normally, yet the room temperature is not reduced to a comfortable level, one or more of the following conditions may exist:

1. Room heat load may exceed the air conditioner capacity.
2. Abnormal outside air temperature or humidity.
3. Excessive air infiltration due to faulty unit installation.
4. Excessive air infiltration due to open door or poorly fitting doors, windows, or transoms.
5. Incorrect thermostat setting.

If the temperature and wattage readings do not fall within the limits listed in the test tables, the following conditions should be checked:

1. Insufficient airflow through evaporator and condenser, due to lower than normal fan motor speed. This might be caused by faulty lubrication or defective motor windings.
 2. Excessively dirty filter.
 3. Low line voltage.
 4. Excessively dirty condenser.
 5. Clogged slot in bottom of condenser air scroll, in models 75-FC and 100-FC.
 6. Clogged condensate drain tube in all air-cooled models.
 7. Dirt encrusted fan blades (condenser and evaporator fans).
 8. Internal trouble within the Super Power system.
 9. Improperly adjusted water-regulating valves.
- NEVER REPLACE A SEALED REFRIGERATING SYSTEM WITHOUT FIRST MAKING THE TEMPERATURE AND WATTAGE TESTS, AND CHECKING THE CONDITIONS LISTED ABOVE.

(To Be Continued)

Bank's Fur Storage Will Handle 50,000 Coats

BROOKLYN—With room for more than 50,000 coats, the Parkway office of the East New York Savings Bank here is said to have the largest fur storage repository in Brooklyn.

Two 15-hp. York condensing units provide the refrigeration that maintains the storage room at 35° F. during the week and then automatically drops it to 15° F. over the weekend. This is said to kill all larvae.

The two condensing units have individual coils and can be operated singly or together depending on the load. They use a common blower. Comfort cooling for the two-floor banking quarters is provided by two other York 15-hp. condensing units and two Yorkaire units with zone control for extra capacity.

Installation was by York Distributors, Inc.

Dean Will Represent Acme In Florida Area

JACKSON, Mich.—Acme Industries, Inc., has announced the appointment of a new Florida representative, Allen C. Dean.



Allen C. Dean

Dean will be the Acme representative for all Acme products in the refrigeration and air conditioning lines and will be the distributor for Acme products in the Flow-Cold division. He will stock a wide variety of sizes for immediate shipment to dealers now being established in the state of Florida.

Before joining Acme, Dean was sales manager for A. V. Cauhorn Co., a Chrysler Airtemp distributor in Detroit.

Prior to that, Dean was a staff executive on the Detroit Board of Commerce, where he was in charge of transportation, aviation, foreign trade, and legislation. Part of his duties consisted of being a spokesman at Washington for Detroit industry on legislation affecting business.

In 1945, Dean left the Detroit Board of Commerce to open public relations offices in Washington, D. C. and Detroit. He served as public relations counsel for the non-basic steel co-ordinating committee (comprising fabricators as well as manufacturers of products made from steel).

speaking about
TRADE-INS

is a spiffy new 24-page booklet just published by the News. It presents you with some fresh, dandy ideas on how to help eliminate one of your perennial bugaboos, the "trade-in" problem.

The whole problem is divided into three categories and some sound, sensible methods on how to deal with each category are described. 1. Acquiring the "trade-in" and determining its worth. 2. Reconditioning the "trade-in." 3. Marketing the "trade-in."

The whole contents of this booklet is compiled from the best articles on and experiences of other appliance dealers whom the News has talked to in the past year. These ideas are actually used successfully and perhaps they would work as well or better for you. At least you can read about them and see how they fit in with your operation.

The booklet sells for 50¢ a copy. Order now! Use this coupon.

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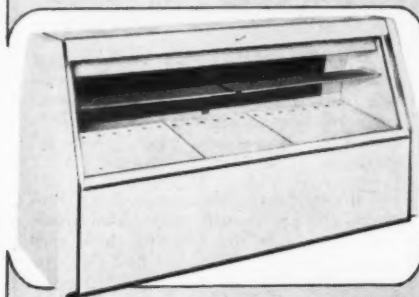
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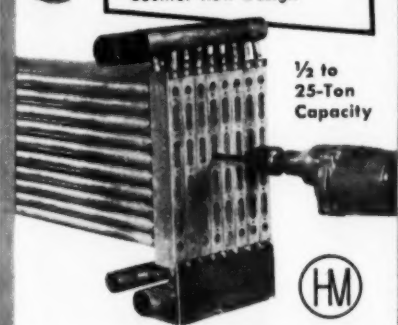
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Educational Exhibits Lead to Better Field Application Work



Carl Olin of Servel, Inc. "checks in" the operation of a Servel condensing unit for some interested visitors to the West Coast Refrigeration and Air Conditioning Exhibit and Conference held recently in Long Beach, Calif. The conference is one in a series sponsored by REMA-RSES.



Purpose of the educational exhibit and conference is to bring to the field factory-developed discussions and educational displays on products for use in the installation and servicing of refrigeration and air conditioning equipment. Here George Boepple of Alco Valve Co. describes the functions of valves and other refrigeration accessory items made by the firm.



Proper functioning and placement in the system of such products as compound gauges, line valves, and purgers are made clear in this demonstration board which Mueller Brass Co. developed and which Paul Domke of the company explains to an interested group. This exhibit got the second highest number of "mentions" in a contest sponsored by Rewa among those attending for best descriptions of exhibits that proved most educational.



Two groups discuss operating displays in the Sporlan Valve Co. exhibit. At left are Walt Hilton of Thermal Products, Los Angeles; William Wischmeyer of Sporlan; and John L. Kyzivat of Los Angeles. In background Merle Haynes of Sporlan points out an exhibit feature to George McConnell of Berkeley, Calif., and William Wurzbach of Oakland, Calif.



OFF THE CHEST

'BIG ONES' DOMINATING INDUSTRY, DEALER SAYS

Bregante's Electric
568 Miller Ave.
So. San Francisco, Calif.

Editor:

My business—electric and refrigeration maintenance, sales, and service.

My position—independent owner, manager.

Remarks—The refrigeration business has become stagnant in a cess-pool of dominating ideology, that is, helping in many ways to defeat in the quickest possible time, a traditional American system.

When you have a price that is different for every different size of business, then the biggest one becomes a dominating factor in that locality quickly helping the system which we oppose and talk about but never do anything about.

BREGANTE'S ELECTRIC

MALCOLM'S TRIBUTE TO NEWS READERS: GREAT GUYS

Central Service Supply
Syracuse 3, N. Y.

Editor:

I thought I would take this opportunity to write you and let you know how happy you have made my young friend Malcolm Smith.

Several months ago you will recall that I wrote you asking that you insert an item in your "Inside Dope" column that my nine-year-old friend had a hobby of collecting calling cards, and I asked those good readers of yours to mail these cards to Malcolm's residence.

I did not write you at the time of the request that Malcolm was a victim of Infantile Paralysis in the summer of 1949, as I did not want to play on the sympathies of your readers, but rather on their "good Natures."

Shortly after I wrote you, Malcolm was stricken with Infantile Paralysis for the second time, and fortunately made a very quick recovery and returned home from the hospital on the Saturday following the publication of my first request.

On the day that Malcolm returned

from the hospital an avalanche of letters containing cards was received at the Smith residence. Many of the cards contained letters and, believe me, you never saw a happier kid in all your life that Saturday morning. I, for one, was extremely surprised at the number of people who sent these cards, many of whom took valuable time from their business to sit down and dictate a letter also.

Such top men as Charles Wilson, president of General Motors; A. D. Smith, vice president of G. E. in Mexico City; Sales Managers of various leading companies in our industry; servicemen operating their own service businesses; and others sent cards to Malcolm and without stopping to count, he has already received over a thousand cards.

These have been coming from all over the United States, Mexico, Canada, India, and we have already had to get Malcolm a new book to hold all these cards.

I am writing this letter primarily to thank all these people who were good enough to send Malcolm their cards, as it is impossible for him to acknowledge these. Secondly, I knew you would get great satisfaction in knowing that so many people do read your "Inside Dope" column, and I know you get great satisfaction in knowing that so many of your readers are really GREAT guys.

THEODORE I. GLOU

A CHEAP POWER FORMULA TO HELP HEAT PUMP?

P. O. Box 1543
Nogales, Ariz.

Editor:

I was interested in the heat pump and expected to get electric current around Helena, Ohio, for one cent a kilowatt after I used so much on 24-hour rate.

If they had put in internal combustion gas turbines they could have made more profit at one cent a kilowatt, than they are making now at two cents a kilowatt when they are using powdered coal to make steam.

They are throwing the explosion away and only using the heat. The explosion will give six times as much power. And you can still utilize the heat for steam.

J. PARKE LUDWIG

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...not just
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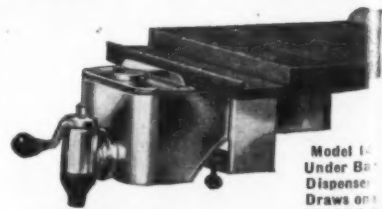
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Model 1—
Under Bar
Dispenser
Draws out
sweet drink
and softener

New G-E Line--

Concluded from Page 1, Column 5)

the freezing compartment, the refrigerators give satisfactory temperatures in all parts of the cabinet under varying conditions of climate and usage," G-E stated. "Special adjustments by the user are not required."

Pointing out the differences between these new refrigerators and the company's two-door combination refrigerator-food freezers, Rieger said the former are designed for only short-time storage of large quantities of frozen foods.

The freezing compartment of the combination models, on the other hand, maintains zero temperature and can therefore be used not only to freeze all types of food but also to store frozen foods for as long as a year, it was pointed out. Furthermore, the fresh food compartment of these models "never requires defrosting and maintains high humidity so that moist foods need not be covered," it was stated.

The new G-E refrigerator-freezer combinations, Rieger said, are equipped with Alnico magnetic doors which close themselves "silently and tightly." The door to the large fresh-food compartment can be opened by a foot pedal.

A feature of several of the new low-price standard refrigerators is a new blue shelf finish. Laboratory and field tests have indicated that this lasts much longer than plated finishes. Other refrigerator models are equipped with anodized aluminum shelves with closely spaced wires that prevent even small bottles from tipping.

All the 1951 refrigerators are equipped with large fruit and vegetable drawers which glide in and out on rubber-tired rollers, and with the company's Redi-Cube ice trays, which permit the user to remove one, two, or a whole trayful of cubes as needed.

Both of the company's new food freezers have been restyled. The alarm signal light, which tells when current is interrupted or temperatures are too high, has been placed in a more prominent location on the

front of the cabinets.

Rieger said the reduction of noise from the refrigerating mechanism used in all the 1951 refrigerators and freezers has resulted from the development of a compressor which utilizes several newly designed parts and special noise-damping construction.

TV Producers Cut Output And Predict Price Rises

NEW YORK CITY—According to reports published in the press here, television set manufacturers this week have made the first cuts in production because of the scarcity in materials.

Among the companies named who have cut back production are Admiral Corp., Radio Corp. of America, Olympic Radio & Television Co., and Emerson Radio & Phonograph Corp.

It is also believed that TV set prices will be higher, because of the mounting costs of materials (particularly in the gray market) and wage hikes. Estimate of the price increases range from 10 to 25%.

G-E To Offer Low Price Automatic Washer In Jan.

LOS ANGELES—A new automatic washer which will sell for \$60 or \$70 less than its present automatic washer model will be introduced by General Electric in January, according to statements made here by Hardage L. Andrews, G-E vice president in charge of the appliance and merchandise department.

The new washer and the new clothes drier just introduced last week (see Nov. 27 issue) are part of G-E's new product program which "will not be stopped unless an all-out emergency results," according to the G-E official.

Texana Chartered In Ky.

LOUISVILLE, Ky.—Texana, Inc., here has obtained a charter from the Secretary of State to deal in air conditioning and heating equipment.

NEMA Home Freezer Sales for 9 Months Hit 471,651 Units; Sept. Total Is 62,843

Summary for August-September and First Nine Months, 1950

Electric Farm and Home Freezers—Complete—Sales by Sizes—Units

Farm and home freezers complete with high and low side and cabinet, where 50% or more of the net cabinet capacity is designed for the freezing and/or storage of frozen foods.

Sizes	AUGUST (27 Companies)		SEPTEMBER (27 Companies)		Total
	Domestic (48 States and D. C.)	Other Foreign	Domestic (48 States and D. C.)	Other Foreign	
1. 4.9 cu. ft. and under..	3,882	26	3,479	97	3,576
2. 5.0 to 6.9 cu. ft.	2,726	168	1,841	233	2,074
3. 7.0 to 8.9 cu. ft.	15,696	380	10,793	226	11,019
4. 9.0 to 10.9 cu. ft.	7,144	80	4,221	59	4,280
5. 11.0 to 12.9 cu. ft.	22,925	283	26,172	229	26,401
6. 13.0 to 16.9 cu. ft.	12,251	15	9,301	2	9,303
7. 17.0 to 20.9 cu. ft.	9,724	13	4,824	17	4,841
8. 21.0 to 29.9 cu. ft.	887	...	859	...	859
9. 30.0 to 39.9 cu. ft.	398	...	454	...	454
10. 40.0 to 49.9 cu. ft.	1	...	4	...	4
11. 50.0 to 59.9 cu. ft. ....	...	...	...	...	...
12. 60.0 cu. ft. and over..	6	...	3	...	3
Total—All Models	75,640	148	61,951	863	62,814
18. Total Upright Models (included in above) ..	2,506	11	1,556	...	1,556

Sizes	AUGUST (27 Companies)		SEPTEMBER (27 Companies)		Total
	Domestic (48 States and D. C.)	Other Foreign	Domestic (48 States and D. C.)	Other Foreign	
1. 4.9 cu. ft. and under..	3,882	26	3,479	97	3,576
2. 5.0 to 6.9 cu. ft.	2,726	168	1,841	233	2,074
3. 7.0 to 8.9 cu. ft.	15,696	380	10,793	226	11,019
4. 9.0 to 10.9 cu. ft.	7,144	80	4,221	59	4,280
5. 11.0 to 12.9 cu. ft.	22,925	283	26,172	229	26,401
6. 13.0 to 16.9 cu. ft.	12,251	15	9,301	2	9,303
7. 17.0 to 20.9 cu. ft.	9,724	13	4,824	17	4,841
8. 21.0 to 29.9 cu. ft.	887	...	859	...	859
9. 30.0 to 39.9 cu. ft.	398	...	454	...	454
10. 40.0 to 49.9 cu. ft.	1	...	4	...	4
11. 50.0 to 59.9 cu. ft. ....	...	...	...	...	...
12. 60.0 cu. ft. and over..	6	...	3	...	3
Total—All Models	75,640	148	61,951	863	62,814
18. Total Upright Models (included in above) ..	2,506	11	1,556	...	1,556

Sizes	AUGUST (27 Companies)		SEPTEMBER (27 Companies)		Total
	Domestic (48 States and D. C.)	Other Foreign	Domestic (48 States and D. C.)	Other Foreign	
1. 4.9 cu. ft. and under..	24,020	408	24,020	408	24,428
2. 5.0 to 6.9 cu. ft.	18,879	96	18,879	96	19,948
3. 7.0 to 8.9 cu. ft.	83,896	2	83,896	2	85,563
4. 9.0 to 10.9 cu. ft.	40,408	50	40,408	50	40,730
5. 11.0 to 12.9 cu. ft.	149,735	1	149,735	1	150,700
6. 13.0 to 16.9 cu. ft.	83,065	3	83,065	3	83,145
7. 17.0 to 20.9 cu. ft.	60,782	34	60,782	34	60,927
8. 21.0 to 29.9 cu. ft.	3,471	...	3,471	...	3,473
9. 30.0 to 39.9 cu. ft.	2,684	...	2,684	...	2,684
10. 40.0 to 49.9 cu. ft.	14	...	14	...	14
11. 50.0 to 59.9 cu. ft. ....	...	...	...	...	...
12. 60.0 cu. ft. and over..	39	...	39	...	39
Total—All Models	466,993	186	466,993	186	471,651
18. Total Upright Models (included in above) ..	14,258	96	14,258	96	14,395

Participating companies: Avco Mfg. Corp.; August G. Barkow Mfg. Co.; Beatty Mfg. Co.; Ben-Hur Mfg. Co.; Carrier Corp.; The Coolerator Co.; Deep-freeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint, Inc.; International Harvester Co.; Kelvinator Div., Nash-Kelvinator Corp.; A. J. Lindemann & Hoverson Co. (in 3-1-50); Masterfreezer Home Locker Mfg. Co.; The Maytag Co.; Norge Div., Borg-Warner Corp.; Portable Elevator Mfg. Co.; Refrigeration Div., Philco Corp. (in 8-1-50); Revco, Inc.; Sanitary Refrigerator Co.; Schaefer, Inc.; Emil Steinhurst & Sons, Inc.; Seeger Refrigerator Co.; Victor Products Corp.; Westinghouse Electric Corp.; Wilson Refrigeration, Inc.; Brewer-Titchener Corp. (out 1-1-50); Oregon Ref. Co. (out 3-1-50); Sub-Zero Freezer Co., Inc. (out 6-1-50); Whiting Corp. (out 2-1-50).

Lewyt Boosts Prices \$10; First Rise Since 1947

NEW YORK CITY—The suggested list prices of Lewyt vacuum cleaners were increased \$10 this week. The price change is the first on the Lewyt cleaner since it was introduced in 1947.

New list prices are: model 55-80, \$98.95; model 55-101, \$94.95.

9 Months' Freezer Sales Surpass 1948 Record Year

NEW YORK CITY—At the end of the first nine months of this year, firms reporting to the National Electrical Manufacturers Association had sold more home freezers than they had in the entire record year of 1948 and better than 50% more than in the entire year 1949.

Through September, 471,651 units were sold. This compares with 450,550 for all of 1948 and 313,957 for all of 1949.

In September alone, 62,843 home freezers were sold by 27 companies. This is the third largest monthly total ever recorded by Nema, only falling behind the record breaking months of July and August immediately preceding. The August total of 76,753 is the largest to date.

Though the September total was 19% under that of August, sales of 11 to 12.9-cu. ft. freezers jumped from 23,208 units in August to 26,401 units in September.

Taylor Incorporates In Texas

AUSTIN, Tex.—The Secretary of State here has granted a charter of incorporation to the Taylor Refrigerated Warehouse Co. in Taylor.

BIG NEWS for '51!

★ A NEW, COMPLETE LINE OF "PACKAGED" AIR CONDITIONERS

★ A NEW, COMPLETE IDEA ON "PACKAGED" MERCHANDISING

Write today!

Lipman
REFRIGERATION and
AIR CONDITIONING

GENERAL REFRIGERATION DIVISION
Yates American Machine Co.
Beloit, Wisconsin

I am interested in getting the full story on
Lipman ☐ Air Conditioning, ☐ Refrigeration ...
send details.

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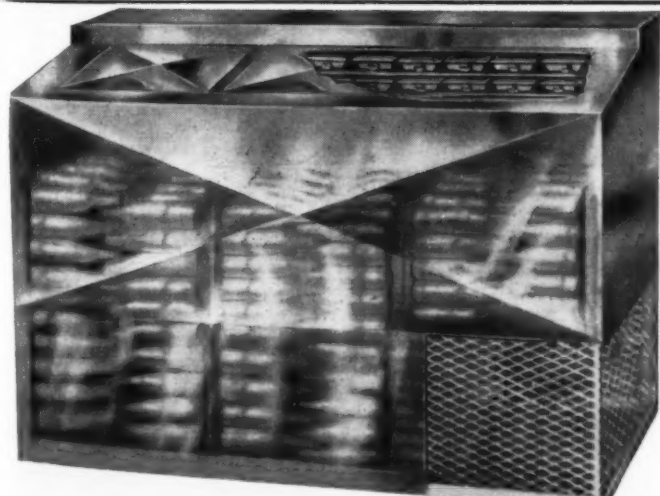
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Title

Write for
MERCHANDISING
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BRANCH OFFICES
Chicago, Illinois
Memphis, Tennessee
High Point, North Carolina
Portland, Oregon



Flocold Stainless Steel
DRINKMASTER

252 ICE CUBES—300 COLD (12 OZ.) BOTTLES.

All within easy reach thru three slide back doors.

POWERED BY SERVEL SUPERMETIC
WITH FIVE YEAR WARRANTY.

4 ft. lg. 27" w. 33" High. Shipping wt. 400 lbs.

"A CASE OF COOL JUDGMENT"

Mfd. by **UNITED FRIGUATOR ENGRS.** MENOMINEE, MICHIGAN.

HERE'S
LOW-COST
COOLING
FOLKS WILL BUY

THIS
SALES PLAN
BOOSTS YOUR
PROFITS HIGH!

THAT'S THE

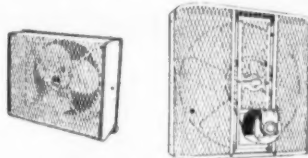
Coolair
Breeze Conditioning

PROPOSITION
FOR 1951!

For the tough going ahead, tie into a proposition that will pay off. Cool summer comfort has become a necessity to most businesses, home owners and tenants. Coolair Breeze Conditioning is within the financial reach of almost every prospect. Insure your 1951 profit picture with this unique proposition!

A Complete Line for Homes and Businesses!

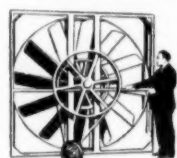
Air capacities from 2,320 to 154,000 CFM



Window and Wall Units



Single and Twin Attic Packages



Plus Home, Commercial and Industrial Units Up to 9' Blade Diameter

Valuable Franchise

The Coolair Franchise assures you of a market area large enough so you can be sure of real profit opportunities! There are now, or soon will be, distributors in most areas with stocks for dealers to draw from.

Sales Training

Authorized dealer personnel are trained under factory supervision to make proper recommendations to home owners, engineers and architects. You profit immediately from your Coolair Franchise!

New, Hard-Hitting Advertising and Promotion!

Coolair advertising and promotion helps you sell! Includes literature, displays, selling tools—even direct mail sent to YOUR prospects from the Coolair factory!

If your business can stand a sure-fire profit maker for 1951, send in the coupon today. No obligation.

American Coolair Corporation
Leaders in Air Cooling for 23 years

Dept. ACR-121,
American Coolair Corporation,
Jacksonville 3, Florida

Please rush me the full information about the Coolair Proposition for 1951. We are interested in ☐ a dealership, ☐ a distributorship.

NAME

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DO IT NOW

Government Contracts

PROCUREMENT INFORMATION

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request to the purchasing office under which the purchase is listed in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date. This will save time in filling your request. For reasons of economy, specifications are normally not included with the bid invitations unless the specification is a new one. First time bidders on a particular item should request a copy of applicable specifications and drawings at the time the request for a bid set is made.

DEPARTMENT OF DEFENSE

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Flatiron Arsenal; Raritan Arsenal; Rock Island Arsenal; Springfield Armory; Watervliet Arsenal; and Watervliet Arsenal. Complete information on any purchase listed by any of those offices alone can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices. Ordnance District Offices do not have information on any other purchases.

Description	Quantity	Invitation No.	Opening Date
Yards and Docks Supply Office, Port Hueneme, Calif. Attn.: Procurement Division Unit Air Conditioning, Space Type, 25-Ton Capacity 10,000 CRM	2 ea	19644	6 Dec 50
Officer in Charge, Navy Purchasing Office, Washington, D. C. Valves, Swingcheck & Inverted Globe Stop Check	224	2847-S	30 Nov 50
Commanding Officer, Naval Supply Depot, Mechanicsburg, Pa. Attn.: Code 778B Gauges, Pressure, Various Ranges	235 ea	762449A-1	8 Dec 50
Navy Purchasing Office, 111 East 16th St., New York, N. Y. Cases, Vegetable Display Services (L & M) to Mfg. and Assemble Mechanical Parts	1 ea	7641	7 Dec 50
Commanding Officer, The Marine Corps, Washington, D. C. Attn.: Supply Department, Procurement Section Cabinets, Bread and Pastry Storage	9 ea	508	11 Dec 50
Fryers, Deep Fat, Gas Fired, 45,000 B.t.u.	2 ea	508	11 Dec 50
Ovens, Baking, Natural-Gas Burning, 4 Deck Ranges, Table-Top, Gas Burning	2 ea	508	11 Dec 50
Ranges, Fry, Top, Gas Burning	5 ea	508	11 Dec 50
Toasters, Continuous-Type, Gas-Fired	8 ea	508	11 Dec 50
Chicago QM Depot, QM Purchasing Division, Chicago, Ill. Components for Bakery M-1945, Refrigerated Unit For Chilled Water, Mobile Bakery M-1945	4 ea	508	11 Dec 50
Domestic Pack Overseas Pack	10 ea		
Signal Corps Procurement Agency, 2800 South 20th St., Philadelphia 45, Pa. Refrigeration & Heating Unit, Water, Oscar Fisher HHC-4 or Equal	1 ea	588-04	21 Dec 50
Navy Purchasing Office, 111 East 16th St., New York City Temperature and Humidity Cabinet	1 ea	7727	15 Dec 50
Carbon Tetrachloride, 24,000 gal		7670	19 Dec 50
Supply and Fiscal Officer, Naval Air Station, Pensacola, Fla. Liquefied Petroleum Gas Systems to Furnish Gas for Ranges, Room and Hot Water Heaters, Inc. Installation	22 ea	204-51	6 Dec 50
Ranges, Apartment Type, Hot Water Heaters, Room Heaters, for Liquefied Petroleum Gas, Inc. Installation	148 ea	204-51	6 Dec 50
District Public Works Office, Third Naval District, Federal Office Bldg., Room 1505, 90 Church St., New York, N. Y. Conversion of Heating Plant from Coal to Oil Burning. Installation of 5,000 Gal. Oil Tank, Pumps, and Accessories. Repairs to Boilers, Change of Heating System from Steam to Hot Water and Associated Work, Naval Records Management Center Annex Baldwin, L. I., N. Y. Deposit of Ten Dollars Required to Obtain Plans and Specs	1 job	26036	5 Dec 50
Signal Corps Procurement Agency, 2800 South 20th St., Philadelphia 45, Pa. Valve Solenoid Bronze Metal DC Operated Used with Gas and Oil Asco Type PWA Part 26458-62-Dwg 8818-C or Equal	50 ea	1084-11	20 Dec 50
Officer in Charge, Navy Purchasing Office, Washington, D. C. Stands, Temperature Regulator 650	4318		13 Dec 50
Commanding General, ORD Tank Auto Center, 1501 Beard St., Detroit, Mich. Thermometer, Dairy Fahrenheit 350 ea	350 ea	1565	18 Dec 50
Officer in Charge, Navy Purchasing Office, Naval Supply Center, Norfolk, Va. Evaporative Condenser With Liquid Receiver Tank-Operated by 220 Volt, 3 Phase, 60 Cycles Heating and Cooling Unit. Shall Operate 220 V., 3 Phase, 60 Cycle	1 ea	9387	4 Dec 50
Chicago Procurement Office, Corps of Engineers, 226 West Jackson Blvd., Chicago, Ill. Valve, Cylinder, Gas Valve, Brass, 100 Lb. Pressure	750 ea	C-792	7 Dec 50
Commanding Officer, The Marine Corps, Washington, D. C. Attn.: Supply Department, Procurement Section Case, Display, Meat, 3 Sections 30 Ft. Long	1 ea	574	7 Dec 50
Case, Display, Open, Dairy Self-Service, Approximately 13 1/2 Ft. Long	1 ea	574	7 Dec 50
Commanding Officer, Naval Supply Depot, Mechanicsburg, Pa. Attn.: Code 778B Misc. Electrical Repair Parts Mfg. by Hotpoint, Inc.	639 ea	764697	14 Dec 50
C. O., Armed Services Medical Procurement Agency, Brooklyn, N. Y. Valve, Steam, Angle, Male Union 3/4"	65 ea	655	20 Dec 50
Valve, Water, Angle, Male Union 3/4"	40 ea	655	20 Dec 50
Yards and Docks Supply Office, Port Hueneme, Calif. Attention: Procurement Division Air Conditioner, 1 1/2 Hp., Console Model	1 ea	20082	11 Dec 50
Air Conditioner, 1 1/2 Hp., Window Sill Type	21 ea	20082	11 Dec 50
Air Conditioner, Self-Contained, Water Cooled	1 ea	20082	11 Dec 50
Air Conditioner, Room-Window Mounted, 15 1/4" High x 26 1/4" Wide x 29 1/4" Deep	6 ea	20082	11 Dec 50
Air Conditioning Unit, Supply Officer, Naval Shipyard, Naval Base, Charleston, S. C. Procurement Officer Water Cooler, Pressure Type Equal to General Electric Type 10 GPH	6 ea	199/3071/51	11 Dec 50
District Public Works Office, Sixth Naval District, Charleston, S. C. Rehabilitation of Cold Storage Bldg., 161, Naval Air Station Jacksonville, Fla.	1	25444	21 Dec 50
Commanding General, Columbus General Depot, Columbus 15, Ohio, Attn.: Quartermaster Purchasing Division Doors, Refrigerator	25 ea	51-68	21 Dec 50
Commanding Officer, The Marine Corps, Washington, D. C. Attn.: Supply Department, Procurement Section Machines, Slicing, Meat	30 ea	599	15 Dec 50
Machine Coffee Grinding Electrically Operated	10	599	15 Dec 50

Supply Officer, Naval Proving Ground, Dahlgren, Va. Valve, 10000 PSI, 3 Way	1 ea	1-25	22 Dec 50
Yards and Docks Supply Office, Port Hueneme, Calif. Attn.: Procurement Division Cooling Tower	3 ea	19786	11 Dec 50
Cooling Tower	4 ea	19786	11 Dec 50
Naval Aviation Supply Depot, Philadelphia, Pa. Refrigerators, Reach-In, One Door Shipboard Type Size 8 Electric Spec. Mil R 15456, Ships	70 ea	H52776	18 Dec 50
Officer in Charge, Navy Purchasing Office, Washington, D. C. Valve, Remote Operation 10-30	10-30	2849-S	19 Dec 50
Commanding Officer, U. S. Naval Air Station, Corpus Christi, Texas Range, Gas Magic Chef Or Equal	5 ea	216-55-51	13 Dec 50

GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
Chief, Supply Section, Public Buildings Service, General Services Administration, Washington 25, D. C. Unit Heater, Steam with Fan	11 ea	531	11-30-50
Refrigeration Valves and Controls	64 ea	519	11-27-50
Acting Chief, Construction and Repair Division, Public Buildings Service, 2100 Fidelity Building, Kansas City 6, Mo. Heating System Changes, Kansas City, Mo. Corrigan Bldg.	1 job	DC-181	12-5-50
Chief, Purchase Branch, Federal Supply Service, General Services Administration, Room 7120, 7th and D Sts., S.W., Washington 25, D. C. Electric Water Coolers Land Use, Various Types and Sizes	75 ea	10W-94103	12-6-50
Chief, Purchase Division, Federal Supply Service, General Services Administration, Denver, Colo. Heating Supplies	49 items	1800	12-4-50
Chief Supply Section, Public Buildings Service, General Services Administration, Washington 25, D. C. Exhaust Fans and Louvers	2 ea	554	12-5-50
Chief, Supply Section, Public Buildings Service, General Services Administration, Washington 25, D. C. Compressor for Westinghouse SU-50 Air Conditioner	1 ea	582	12-11-50
Chief, Administrative Services Section, Public Buildings Service, General Services Administration, 500 U. S. Court House, Chicago, Ill. Electric Peeler	1 ea	4-ADM-174	11-27-50
Chief, Administrative Services Section, Public Buildings Service, General Services Administration, 630 Sansome St., Room 838, San Francisco 11, Calif. Yuma, Ariz., U. S. Post Office. Air Conditioning Equipment Enclosure, Labor and Material		SF1-38C	12-12-50

U. S. DEPARTMENT OF COMMERCE

Description	Quantity	Reference No.	App. Bid Date
Chief, Procurement Branch, Civil Aeronautics Administration, 1200 Exchange Building, Seattle 14, Wash. Install an Air Conditioning System at the CAA-S Radar Equipment Room in Admin. Bldg. of Seattle-Tacoma Airport, Seattle, Wash.	1 job	7-51-5083	11-20-50
Chief, Procurement Branch, Civil Aeronautics Administration, 1200 Exchange Building, Seattle 14, Wash. Multi-Louver Register, 16" x 24" Lever Operated	2 ea	25088	11-27-50
Multi-Louver Register, 6" x 10" Lever Operated	1 ea	25088	11-27-50
Rain Hoods	6 ea	25142	11-27-50
Chief, Procurement Branch, Civil Aeronautics Administration, 5651 West Manchester Ave., Los Angeles 45, Calif. Thermometer, Portable Dairy Type, Taylor Inst. Co. 21418	14 ea	6-51-160	11-28-50
Chief, Procurement Section, National Bureau of Standards, 620 11th St., N. W., Washington 25, D. C. Heater, Space Oil, Approx. 15,000 B.t.u., Not Less Than 12,000 B.t.u.	1 ea	B-2-969-51	12-4-50
Chief, Procurement Branch, Civil Aeronautics Administration, 81 Marietta St., N. W., Atlanta 3, Ga. Install Supply and Return Air Ducts from Existing Air Conditioning Unit, Jacksonville, Fla.	One Job	21-119	11-27-50
Chief, Procurement Section, National Bureau of Standards, 620 11th St., N. W., Washington 25, D. C. Tubing, Monel 1,200 ft.		B-2-1039-51	12-6-50
Chief, Procurement Section, National Bureau of Standards, 620 11th St., N. W., Washington 25, D. C. Tubing Copper Soft In 50 Ft. Coils Various O. D. Sizes	800 ft	B-2-1065-51	12-8-50

VETERANS ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
Chief, Procurement Division, Supply Service, Veterans Administration, Washington 25, D. C. ATTN.: J. R. BARR, Telephone Executive 4120, Ext. 3860 Toaster Electric 4 Toast Slots	56 ea	M-144	12-6-50
Toaster Electric 8 Toast Slots	48 ea	M-144	12-6-50
Toaster Electric 12 Toast Slots	48 ea	M-144	12-6-50
Toaster Electric 16 Toast Slots	48 ea	M-144	12-6-50
Chief, Procurement Division, Supply Service, Veterans Administration, Washington 25, D. C. ATTN.: J. R. BARR, Telephone No. Executive 4120, Ext. 3860 Furnaces Artificial Gas	10 ea	M-147	12-5-50
Furnaces Mixed Gas	10 ea	M-147	12-5-50
Furnaces Natural Gas	10 ea	M-147	12-5-50

CONTRACTS AWARDED AS OF NOV. 15, 1950

Description	Quantity	Dollar Value	Contractor and Address
Chicago Quartermaster Depot, U. S. Army, 1819 W. Pershing Road, Chicago 9, Ill. Case, Display, Refrigerated, Dairy 12 Ft.	50	41,005.00	Fleetwood Airflow, Inc. Wilkes-Barre, Pa.
Case, Display, Refrigerated, Meat	50	36,124.00	Fleetwood Airflow, Inc. Wilkes-Barre, Pa.
Navy Department, Headquarters, U. S. Marine Corps, Washington 25, D. C. Refrigerators	100	147,980.00	U. S. Thermo Control Co., 44 S. 12th St., Minneapolis, Minn.
Department of the Navy, Bureau of Ships, Washington 25, D. C. Blower Conversion parts for Fairbanks-Morse Model 38D8-1/4 Engines	30 ea	25,000.00	Fairbanks, Morse & Co. Beloit, Wis.

CONTRACTS AWARDED AS OF NOV. 22, 1950

Description	Quantity	Dollar Value	Contractor and Address
Navy Department, Ships Parts Control Center, Naval Supply Depot, Mechanicsburg, Pa. Various Repair Parts for Electrical Galley Equip.	8,100	58,773.00	Graybar Electric Co., Inc., 1039 S. 13th St., Harrisburg, Pa.
Valves & Valve Repair Parts	2,710	38,305.00	Kieley & Mueller, Inc., 2013-33 43rd St., North Bergen, N. J.
Department of the Navy, Bureau of Ships, Washington 25, D. C. Cabinets, Storage	32,000	546,710.00	Fleetwood Airflow, Inc. 421 N. Pennsylvania Wilkes-Barre, Pa.
Chicago Quartermaster Depot, U. S. Army, 1819 West Pershing Rd., Chicago 9, Ill. Refrigerators, Portable Sp. Pts. & Tools	489 sets	1,067,638.59	U. S. Thermo Control Co., Minneapolis, Minn.
Headquarters, Air Materiel Command, Wright-Patterson Air Force Base, Dayton, Ohio Copper Tubing, CI 23		62,558.00	Wolverine Tube Div., Calumet & Hecla Consolidated Copper Co., Inc., Detroit, Mich.
Valve Assemblies and Spare Parts, CI-031		45,702.00	Adel Div., Gen. Motors Corp., Burbank, Calif.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$5.00 per insertion. Limit 50 words. 10¢ per word over 50.

RATES for all other classifications \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

REFRIGERATION ENGINEER moving to the West Coast. Desires work as a field service or sales engineer. Has 15 years broad experience including service and installation on all types of applications, field service engineer, sales engineer, plus teaching and lecturing. BOX 3630, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

ENGINEERS FOR product design engineering department of refrigerator and freezer manufacturer. Good opportunities with expanding organization for engineers with various interests and amounts of training and experience in product development, design and testing in this field. Reply General Manager, AMANA REFRIGERATION, INC., Amara, Iowa. Replies will be held confidential.

DEVELOPMENT ENGINEERS—Engineering graduates with two or more years experience wanted for design and development engineering on expanded lines and new equipment of all types of air conditioning products including self-contained and remote type coolers, sealed and open type refrigeration compressors, oil and gas fired furnaces (and boilers), heat pumps and many others. Creative, analytical and experimental abilities with potential for long range growth are desired. Extra experience or unusual qualifications given special attention. Apply in writing, give resume of training, experience and interests to GENERAL ELECTRIC COMPANY, 5 Lawrence Street, Bloomfield, N. J.

SALES MANAGER qualified to handle our retail Iowa sales, also supervising and training salesmen. C. L. PERCIVAL COMPANY, Boone, Iowa.

PROMINENT MANUFACTURER of commercial refrigeration and air conditioning equipment needs salesmen to travel, contacting distributors and promoting sales in territory. Must have working knowledge of refrigeration and air conditioning. Give full details of qualifications, references and experience in first letter. Write BOX 3625, Air Conditioning & Refrigeration News.

WANTED: OUR domestic refrigeration service department has need for young man to take charge of our parts department. Must be thoroughly familiar with domestic service. Good opportunity for right man. Write giving details and experience. New York City firm. BOX 3626, Air Conditioning & Refrigeration News.

EXCELLENT OPPORTUNITY for experienced sales engineer with refrigeration engineering background. Must have good knowledge of refrigeration parts jobbing business. Will represent well established company in the Southeastern states. Good starting salary and advancement to one who can get results. Write telling why you can handle job. Attach summary of education, experience and earnings. All replies held in strict confidence. BOX 3627, Air Conditioning & Refrigeration News.

MANUFACTURER'S REPRESENTATIVES wanted by middle west manufacturer. Complete line of refrigerated store fixtures, including latest design self-service models for supermarkets. Contact dealers, distributors and chains. Our sales program for 1951 provides for the establishment of representatives in several desirable territories in United States. Have very attractive proposal. BOX 3629, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

WHOLESALE SEALED unit rebuilding. We will rebuild and convert your unit to "Freon-12." One year guarantee. Write for price list and shipping instructions. ADVANCE REFRIGERATION COMPANY, 829 East McNichols Road, Detroit 3, Mich.

REFRIGERATOR DOORS. 3/8" by 6/8" double batten auto close doors complete with removable track heads for a 7/2" track. 1 1/2" corkboard insulation. 16 gauge metal clad. Brand new. \$95.00 each. Freight prepaid in U.S. Door height will be altered for anything up to

an 11 ft. 2 in. track for \$15.00 additional. BIMEI CO., Cincinnati, Ohio.

CLOSE-OUT on water coolers, bottle type. All brand new, of popular manufacture, complete with condensing unit. Exceptional value at \$84.00 each net, FOB NYC. Write, wire or phone GENERAL REFRIGERATORS CORPORATION, 678 Broadway, New York 12, N. Y. GRAMERCY 3-1222.

Because of the policy set up by Air Conditioning & Refrigeration News, requesting us not to mention manufacturers names, please write for detailed specification sheets and manufacturer's name of following two advertisements.

COMPRESSOR BODIES, brand new model #19, good up to 1-HP. @ \$45, each includes flywheel and one service valve. Write for circular. MANN REFRIGERATION SUPPLY CO., 15 Astor Place, NYC GRAMERCY 3-8000.

1/2-HP, open type units "F-12," complete with 1/2-HP standard brand motors, less receivers; brand new in original crates; specially priced at \$41.95 each. NEW YORK REFRIGERATION CO., 35 East Fourth Street, New York 3, N. Y.

PROMINENT BRAND equipment for sale: Fan motors to operate in either horizontal or vertical position with shaft down. 70 1/2 HP, type TM FR 43T, model JY 209 A2147, 1500 rpm, 60 cy, 1 phase, 115 v., 1.5 amps totally enclosed—Ea. \$7.00. 100 1/2 HP, type TM FR 43T, model JY 210 A2148, 1000 rpm, 60 cy, 1 phase, 115 v., 1.5 amps, totally enclosed—Ea. \$7.50. 50 1/2 HP, FR K104 SER. OM15179 XII, 1050 rpm, 2.1 amps—Ea. \$6.00. All new in original cartons. SIMPLEX MANUFACTURING COMPANY, 1135 Third Street, Oakland 7, California.

BUSINESS OPPORTUNITIES

ENGLISH MANUFACTURERS of domestic refrigerators either complete or hermetic and absorption type units and evaporators separately for local assembly, wishes to contact lively agents in all U.S.A. states. Make use of devaluation while it lasts. Airmail at once for free lists and particulars. LONGFORD ENGINEERING CO., LTD., Dept. A.C., Bognor, Regis, Sussex, England.

FOR SALE: Complete refrigeration, air conditioning sales and service in a Wisconsin town of 50,000; 8 county franchise territory for nationally known refrigeration, air conditioning and store fixtures. Will sell all or part to right party. Do not have to have all cash. Reasons for selling and full information write P. O. Box 450, La Crosse, Wisconsin.

FOR SALE—Because of ill health will sell for inventory one of the largest store fixture and appliance businesses in Middle West. Located in Indiana. Our business last year grossed \$260,000.00 and we paid net income tax of \$18,837.63. This year of 1950 our gross will show \$350,000.00 and we should show net profit \$25,000.00 and be forced to pay tax on this figure. We operate six brand new trucks, have large four-story modern fireproof building under lease with 16,000 sq. ft. floor space. Modern elevator 18 ft. long lifts 8,000 lbs., makes the building the most ideal type for this kind of operation. We have the best lines to sell, the best sales and service organization in this part of the country. Will sell business for inventory only at invoice prices. If interested write BOX 3597, Air Conditioning & Refrigeration News.

FOR SALE—Established commercial refrigeration sales and service business in Lynwood, California, a suburb of Los Angeles. Consists of new stucco building, stock and complete shop equipment. Doing good business. Selling because of illness. BOX 3628, Air Conditioning & Refrigeration News.

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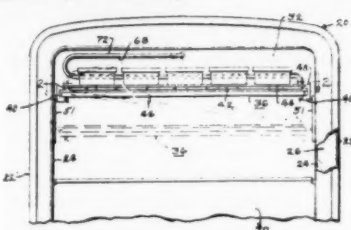
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PATENTS

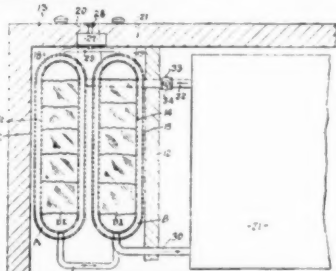
Week of June 13
(Continued)

2,511,127. REFRIGERATOR CABINET HAVING A MOVABLE EVAPORATOR. Lawrence A. Philipp, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application Nov. 4, 1947, Serial No. 784,036. 5 Claims. (Cl. 62-126.)



1. In refrigerating apparatus, a cabinet, refrigerant evaporator within said cabinet dividing the interior thereof into a food storage compartment and a freezing compartment, said refrigerant evaporator being vertically adjustable to vary the relative storage capacities of said compartments and to change the temperature of the food storage compartment, vertically movable supports carrying said evaporator, vertically spaced supporting means on the cabinet for holding said movable supports in the vertically adjusted positions, and retractable members carried by said vertical movable supports engageable with said vertically spaced supports.

2,511,176. CARBON DIOXIDE REFRIGERATING APPARATUS. Clara E. Quinn, St. Petersburg, Fla., assignor to Frank S. Reed, St. Petersburg, Fla. Application Feb. 26, 1946, Serial No. 650,217. 9 Claims. (Cl. 62-91.5.)



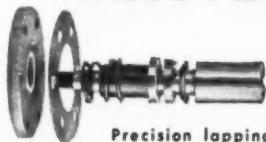
2. In a refrigerating apparatus as disclosed, a heat insulating cabinet forming an apparatus and a storage compartment, a pair of elongated double-walled heat-conducting vessels in said apparatus compartment, the inner space of each forming a solid refrigerant bunker, a pair of heat exchange members in said storage compartment and connections between said members and the spaces formed by the walls of said vessels to cause a circulatory liquid secondary refrigerant to flow alternately through both refrigerating members and in so doing to travel throughout the length of the spaces defined by said double-walled vessels.

2,511,295. AIR FILTER. Elston A. Roop, Louisville, Ky., assignor to Continental Air Filters, Inc., Louisville, Ky., a corporation. Application Aug. 22, 1947, Serial No. 770,095. 4 Claims. (Cl. 261-80.)

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Refrigeration Units WANTED

Desire to purchase 1/8 to 1-HP Sealed or open type; standard brands; Complete condensing units; Also parts; Give full details.

HARWOODE EXPORT CO.

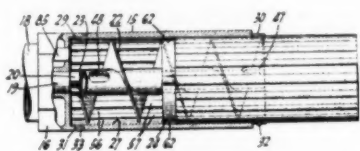
31 E. 4 Street, New York 3, N. Y.

1. An air filter including an upright frame structure, endless carrying belts at each side of said structure adapted to travel up one side and down the other, lower carrying wheels for said belts at the bottom of said structure, spaced pairs of upper wheels for supporting said belts at the top thereof to pass in horizontal direction therebetween, means for driving



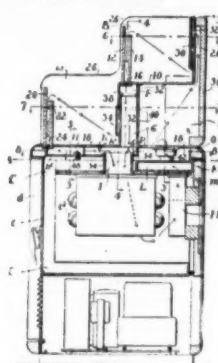
said belts, a series of filter cells pivotally suspended between said belts above their centers of gravity to normally hang in a vertical position with the upper and lower edges in close abutting relation, each of said cells having a sealing element extending along one edge thereof into sealing relation with the next adjacent cell, and a deflecting element at the upper end of said frame structure operably engageable by the upper portion of each cell as it passes over one pair of upper wheels for swinging it toward a horizontal position during its horizontal travel.

2,511,314. APPARATUS FOR FREEZING DESSERTS. Lester N. Yohe, Darby, Pa. Application Aug. 13, 1946, Serial No. 690,145. 8 Claims. (Cl. 62-114.)



1. In a freezer unit, the combination of an elongated container provided with a longitudinally extending bore; and an agitator in said bore comprising an axially located tubular portion provided with an inlet port and an outlet port at opposite end portions, a helical blade surrounding said tubular portion; and a device to vary the size of said outlet port.

2,511,375. AIR-CONDITIONED ARTICLE DISPLAY STAND. Walter Raskin, Orange, N. J., assignor, by mesne assignments, to Noma Electric Corp., New York, N. Y. Application Dec. 4, 1946, Serial No. 714,064. 9 Claims. (Cl. 62-89.5.)

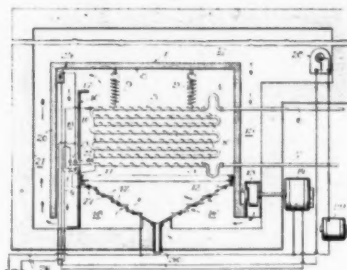


1. An open top bin for articles to be displayed in conditioned air, having a bottom, end walls, front and rear walls, the front wall having a narrow air passage substantially the full length of the bin communicating with the bin slightly below the top of the front and end walls and extends to the bottom of the bin, there being an air inlet to the back of the bin adjacent to the bottom of the bin for delivering air over the bottom of the bin from the back wall to the front wall, an air conditioning device, an air passage connecting the air conditioning device with the inlet to the bin, there being an air outlet from the bottom of the passage in the front wall, an air passage connecting said outlet with the air conditioning device, and a fan for circulating the air through said passages from the air conditioning device over the bottom of the bin, up over the major portion of the front wall and down through the passage in the front wall of the bin through the outlet to the passage connecting the outlet to the air conditioning device.

2,511,419. HEAT DOME TRAP FOR DEFROSTING REFRIGERATORS. Thomas R. Smith, Newton, Iowa, assignor to The Maytag Co., Newton, Iowa, a corporation of Delaware. Application Sept. 12, 1946, Serial No. 696,441. 16 Claims. (Cl. 62-4.)

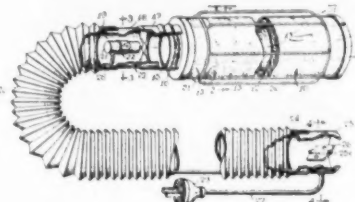
16. In a refrigerating system including a refrigerated food storage chamber and cooling coils over which air from the

food storage chamber is circulated, a blower for circulating air from the food storage chamber to and over the cooling coils and back to the chamber, an enclosure for the cooling coils separating the latter from the chamber except for an inlet and an outlet opening for cir-



culation of the air when the blower is operating, and thermostatic control means in the enclosure and responsive to the temperature of the air therein for controlling the operation of the blower and preventing its operation until the temperature in the enclosure reaches a predetermined low value.

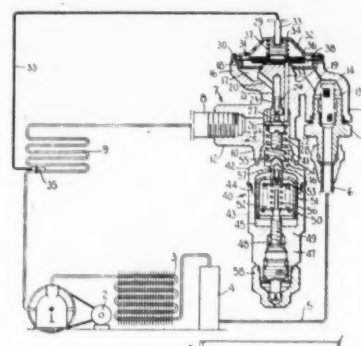
2,511,497. PORTABLE ODOR ADSORPTION DEVICE. George S. Dauphinee, Brooklyn, N. Y., assignor, by mesne assignments, to W. B. Connor Engineering Corp., New York, N. Y., a corporation of New York. Application Aug. 16, 1946, Serial No. 691,143. 4 Claims. (Cl. 183-35.)



1. A portable and detachable odor adsorption device for removing offensive odors underneath the coverlet of a sick bed, litter or the like, said device comprising a canister disposable under said coverlet and having an outer casing and

an inner casing defining a central air passageway, said casings having perforate side walls spaced from one another and closed at both ends, odor adsorption material filling the space between said walls, said air passageway being closed at one end and open at the opposite end, a flexible tubular member connected to the open end of said passageway, and means in said tubular member for drawing purified air through said air passageway and discharging it through said tubular member to a point outside said coverlet, whereby to produce a relatively low pressure area under the coverlet maintaining a flow of air inwardly through the coverlet and preventing the escape of malodorous air outwardly of the coverlet.

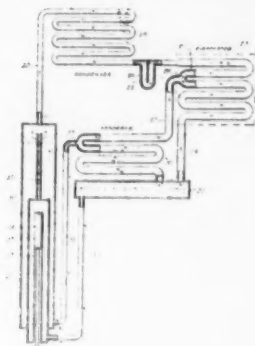
2,511,565. REFRIGERATION EXPANSION VALVE. Franklyn Y. Carter, Dearborn, Mich., assignor to Detroit Lubricator Co., Detroit, Mich., a corporation of Michigan. Application March 3, 1948, Serial No. 12,816. 4 Claims. (Cl. 62-8.)



1. In a refrigeration expansion valve, a movable valve member for controlling flow of refrigerant, thermostatic means cooperable with and operable to move said valve member toward an open position, spring means urging said valve member toward closed position in opposition to said thermostatic means and determining the superheat setting of said valve, an expandable and contractable bellows positioned on the outlet side of the valve and charged with a volatile fluid having a different rate of change of pressure rela-

tive to change in temperature than the refrigerant passing through said valve, said bellows being cooperable with said spring means and being responsive to the temperature and pressure of refrigerant flowing from the valve, and said bellows expanding and contracting in accordance with the differential of internal and external pressure therearound to vary the compressive force of said spring means and thereby to vary the superheat setting of said valve.

2,511,568. REFRIGERATING APPARATUS. George Howlett Davis, Detroit, Mich. Application Nov. 13, 1945, Serial No. 627,998. 6 Claims. (Cl. 62-119.5.)



1. In an absorption refrigerating apparatus, an elongated standpipe, an elongated generator mounted within said standpipe and having a conduit extending from the top thereof to the top space in said standpipe, a heater mounted in said generator near the top thereof, said standpipe and said generator being prolonged below said heater to form a heat exchanger extension thereof, and a refrigerant absorber having its upper part connected to the lower part of said standpipe and having its lower part connected to the lower part of said generator whereby the cool liquid ascending through the prolonged portion of said generator from said absorber extracts heat from the warm liquid descending through the prolonged portion of said standpipe on its way to said absorber.

(To Be Continued)

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Reina Elected RACCA President--

(Concluded from Page 1, Column 2)
George Howe, Accurate Electric Refrigeration Service, Inc., Chicago; Warren W. Farr, Refrigeration Sales Corp., Cleveland; Dale J. Missimer, Pacific Refrigeration Co., Los Angeles; Harvey O. Miller, Murphy & Miller, Inc., Chicago; E. S. Matthews, E. S. Matthews, Inc., Spokane, Wash.; B. C. McCall, Lillie & McCall, Inc., Chattanooga, Tenn. In addition, Bob Noll, Commercial Refrigeration Co., Los Angeles, past president, will sit as a member of the board of directors.

B. C. McCall, chairman of the membership committee, stressed the point that the real strength of a contractor organization should be based upon statewide organization. With a statewide organization, he explained, state-sponsored legislation affecting the industry could be handled most effectively.

McCall also pointed out that the program as submitted by executive vice president Roger O'Donnell was a good sales medium and one that would be attractive to potential members. He also complimented Edna Berggren for the work she had done with the national organization during his term as committee chairman.

HOW CONTRACTORS CAN AID WORK OF B9 CODE GROUP

Chairman H. J. Prebensen reported on the ASA B-9 Code Committee's activities and made the following suggestions to the contractors relative to code activities:

1. Use local influence to promulgate the standard by any means that might come to you.
2. Make a formal and specific written report to your organization in order that all may be fully informed regarding the accomplishment.
3. See that adequate reference is made to the standard in publications of your organization.
4. Suggest the endorsement of the standard by your organization, recommending its use where such action is appropriate.

Legislative Committee Chairman Art Palen made several suggestions for an amendment to the constitution and by-laws. These will be formally submitted to the membership at a future date.

One of the most interesting sessions came after a dinner meeting sponsored by the Los Angeles contractors group, in the form of a panel discussion on "Price Chiseling and What Can Be Done About It." The discussion leaders described various undesirable practices as far as pricing methods are concerned, and questions from the floor indicated that members themselves are being

confronted with many serious problems in the matter of pricing.

One day of the convention was devoted to a "Day With Government" with retiring-president Bob Noll presiding, during which representatives of various government agencies discussed government policies, programs, and prospects in a down-to-earth manner.

NEED FOR KEEPING ABREAST OF NEW REGULATIONS

Walter E. Eliason of the U. S. Department of Commerce discussed inventories, priorities, and allocations from a policy and procedural angle. He recommended that contractors follow closely the publicized priorities regulations and interpretations through publications, and pointed out that regional offices of the U. S. Department of Commerce could be contacted when individual contractors had questions.

Thomas F. Neblett, at present a labor relations consultant in Los Angeles and formerly chairman of the War Labor Board on the west coast, discussed prices and wage controls and made several predictions as to the prospective plans of the government for these two matters.

Controls on credit and how they affect the refrigeration and air conditioning field were outlined by C. E. Potratz of the Federal Reserve Bank. At a luncheon on a "Day With Government" Harry Blythe, adviser to the Chairman of the U. S. Munitions Board and president of STE, Inc., outlined the master plan for M-Day, which includes the mobilization of 100 million Americans.

One point of special interest to contractors was Blythe's statement that during World War II 5 million items were produced for the government by more than 250,000 separate manufacturers; 63% of the materials were bought from 270 companies with 50% of that being produced by smaller companies who sub-contracted the work.

Following the talk by Blythe, Maj. William T. Armstrong, representing the Selective Service System, discussed the policies and functions of selective service and outlined the probable programs as far as future calls are concerned.

Comm. Philip Ashler, USN Chief of Small Business Office, of the Munitions Board, outlined procedures and methods of procurement of the Armed Forces, and the steps being taken to facilitate and expedite procurement of materials.

During the coming fiscal year, he pointed out, the Armed Services expect to spend about \$25 billion, or 25% of the expenditures during the peak year of World War II.

G-E Output May Drop--

(Concluded from Page 1, Column 2)
"in 1951 we'll really have to sell" to move the reduced production of appliances, because of the following:

1. Credit restrictions will begin to tell on sales.
2. There may be some unemployment in the period of changeover to defense from civilian production.
3. There will be savings bonds drives to encourage people to save, rather than spend their money.
4. Increased taxes will curb consumer spending power.

Windowless Plant To Air Cool

THOMSON, Ga.—The Kingsley Mill, a unit of Deering-Milliken & Co., now under construction here, will be windowless and air conditioned. It is to be utilized in the weaving of rayon suitings.

4 Conditions Listed For Obtaining More Aluminum In Dec.

WASHINGTON, D. C.—An aluminum using firm that can qualify under any of four conditions may get an increased allotment of aluminum during December, the National Production Authority revealed recently.

Under the NPA's recent order, a company's use of aluminum for civilian production during December is limited to 100% of its average monthly consumption during the first six months of the year.

Beginning with Jan. 1, a firm's use of aluminum will be cut to 65% of the average monthly use during the first half of 1950.

The four conditions under which a firm may use more aluminum during December than prescribed above are as follows:

1. Where a company started business operations, added new capacity, or started making a new product during or after the base period. In this case, the company may use as much aluminum in December for these new purposes as it used, on the average, during October and November.
2. Where changes in products, requiring more aluminum, were made during or after the base period. In this case, too, the producer will also get as much aluminum in December as his average use during October and November.
3. If a company's operations were shut down more than 15 consecutive

calendar days during the base period, it may eliminate the month or months during which the shutdown occurred in computing its base period consumption.

4. Where a company normally uses more aluminum in December than in an average month during the first half of any year, it may adjust for December on the ratio of its December aluminum consumption of the past three years to use during the first six months of those same years.

Porcelain Enamel Slash--

(Concluded from Page 1, Column 4)
discovered which will provide a satisfactory bond between the enamel and the steel.

The problems of cobalt shortages did not arise during World War II, first, because production of products using porcelain enamel was banned by government order; and second, military uses of cobalt were not so great. Cobalt is highly important in making jet airplane engines and in the manufacture of radar equipment.

Thor Promotes Bales To Sales Mgr. of Sink Div.

CHICAGO—Thor Corp. recently announced the promotion of Daniel J. Bales to sales manager of the company's sink division.

He succeeds John T. Benedict, resigned, as director of sales of the Thor combination clothes washer-dishwasher sink.

Bales joined Thor Corp. in August, 1949, as assistant sales manager of the division. Previously he had been active in Chicago area real estate and home building.

Druggist Draws Attention To Biologicals Case by Setting It Flush In Wall

ALBUQUERQUE, N. M.—Designing the prescription department so that a 9-cu. ft. display refrigerator is "framed in the center" has increased sales of biological drugs for the Pay Less Drug Co., here, operated by Walter Cohen.

Cohen took advantage of the physical dimensions of the prescription department to thus promote biological drugs. With a low front counter, at which two pharmacists meet the public, it was possible to see clearly into the interior. Therefore, located in the direct center of the drug shelving is the refrigerator, with the shelving cut out to accommodate it so that only six inches or so of the box protrudes. Drug shelving thus radiates out from the sides of the refrigerator and above it.

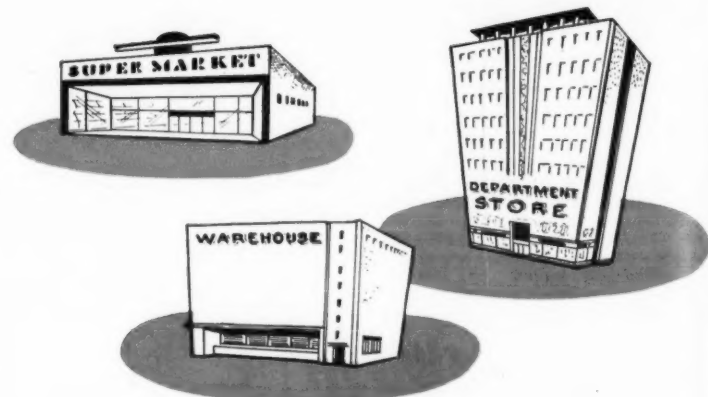
Painted in bright red on the front of the refrigerator is a large red cross, while below this the letters "Biological Drugs" are spelled out in black, six inches high. Looking down the main aisle of the store, it is easy for any shopper to quickly see the refrigerator, and the sight naturally suggests that is a logical shopping point.

Swifter service is assured for biological drug customers, inasmuch as the pharmacists on duty do not have to go into a back room, or step out of sight, in order to locate the refrigerator. Instead, they merely turn around, open the refrigerator, select the requested drug from neat aluminum trays.

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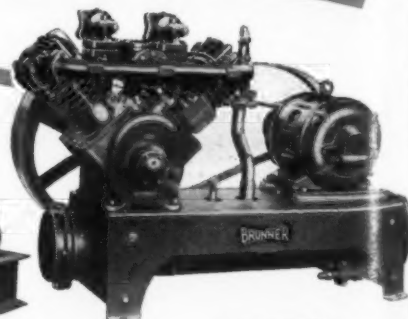
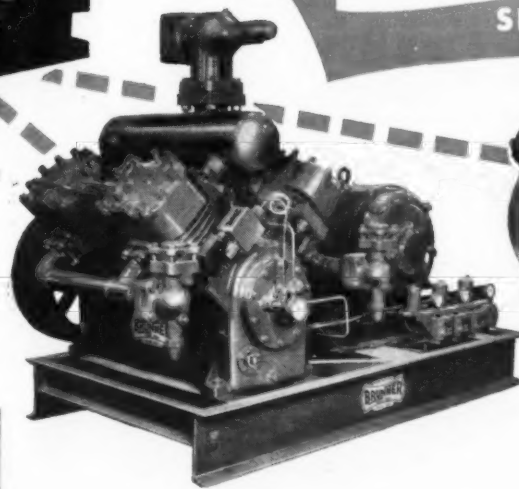
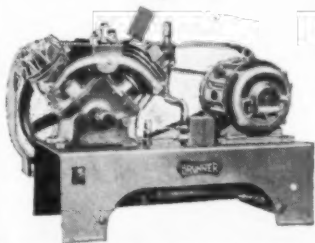
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